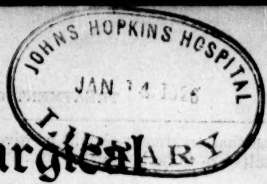


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### THE TREATMENT OF SCARLET FEVER WITH ANTITOXIN\*

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In a preliminary report<sup>1</sup> on the treatment of scarlet fever with Dochez's scarlatinal antitoxin published in March, 1924, it was stated that the antitoxin, when used early, appeared to bring about a prompt cure of the disease as evidenced by a critical fall of temperature and pulse to normal, rapid fading of the exanthem, and prompt disappearance of the symptoms of toxemia. In support of this clinical impression it was further shown in subsequent reports<sup>2, 3</sup>, that the antitoxin in therapeutic doses promptly neutralized the toxin and simultaneously established an excess of antitoxin in the blood of patients acutely ill with scarlet fever. Similar clinical results have more recently been reported by Birkhaug<sup>4</sup>, Dick and Dick<sup>5</sup>, and Park<sup>6</sup>.

Continued use of the antitoxin, now extending over a period of a year and a half, has served not only to confirm these observations, but also to define the indications for treatment with respect to time and dosage and the results to be expected in uncomplicated scarlet fever, scarlet fever with septic complications, and post-scarlatinal sepsis. These aspects of the subject will be discussed in this paper.

As a basis for proper interpretation of the therapeutic effect of scarlatinal antitoxin it is necessary to have a clear understanding of the nature and clinical course of scarlet fever. Through the work of numerous investigators<sup>7</sup> over a period of many years it has now been finally established that uncomplicated or simple scarlet fever is essentially a specific toxemia caused by a superficial infection of the throat with *Streptococcus scarlatinae* without significant invasion of the body tissues by the organism. The uncomplicated disease is self-limited, the duration of the specific toxemia ordinarily varying from four to seven days, though it may be somewhat longer in very severe cases. During this period the specific toxin can be demonstrated readily in the circulating blood<sup>8</sup>. With recovery the toxin dis-

appears from the blood and a demonstrable amount of antitoxin sooner or later appears<sup>9, 10</sup>. The clinical features of the specific toxemia are fever, rapid pulse, nausea and vomiting, prostration, delirium, enanthem, exanthem, and strawberry tongue. Cases of this type are classified as toxic.

Superimposed upon the specific toxemia of simple toxic scarlet fever in an increasing proportion of cases as the disease progresses, are the septic aspects of the disease, due to a local or general invasion of the body by *Streptococcus scarlatinae* or other pyogenic organisms. The septic phase is represented clinically by such conditions as purulent rhinopharyngitis and sinusitis, otitis media, mastoiditis, ulcerative tonsillitis, cervical adenitis, meningitis, arthritis, thrombophlebitis and septicemia. Under these circumstances patients are classified as both toxic and septic. By the end of the first week local or generalized septic processes have become the most important factor in the majority of patients who are still sick and, even though these persist and become more severe, the specific scarlatinal toxemia may terminate as shown by the disappearance of the circulating toxin and clinically by the fading of the rash. Not only may the specific toxemia disappear but antitoxin may appear in the patient's blood in spite of the presence of severe sepsis and the septic process may continue to advance in spite of the fact that the patient himself has produced sufficient antitoxin to cure the specific toxemia<sup>11</sup>. When this stage of the disease is reached it is properly designated post-scarlatinal sepsis. Clinically, all patients with septic processes in whom the rash has gone should be considered to fall in this category.

With this picture of scarlet fever in mind, it is clear that one must attempt to distinguish between the effect of the antitoxin on the specific toxic phase of scarlet fever on the one hand, and on the septic aspects of the disease on the other, since the two processes are of distinctly different nature. Analysis of the data presented below makes this possible and provides definite information with respect to the

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time that treatment should be given if the best results are to be obtained.

#### THERAPEUTIC EFFECT OF ANTITOXIN IN TOXIC SCARLET FEVER, TOXIC AND SEPTIC SCARLET FEVER, AND POST-SCARLATINAL SEPSIS

During the period covered by this report, 57 cases of uncomplicated scarlet fever, 48 cases of scarlet fever with septic complications, and 7 cases of post-scarlatinal sepsis have been treated with Dochez's unconcentrated antitoxin by intramuscular injection. The data concerning them are summarized in Table I. The 57 uncomplicated cases were all promptly

40 c.c. of antitoxin failed to cure permanently the toxemia or to benefit the complications and the patient died on the 8th day. Only 5 of this group subsequently developed additional complications,—otitis media in 3, otitis and mastoiditis in 1, non-suppurative cervical adenitis and arthritis in 1. All recovered satisfactorily. In the 7 cases of post-scarlatinal sepsis no demonstrable benefit resulted from the administration of antitoxin.

From these results it may be concluded that the antitoxin is a specific and effective cure for uncomplicated or toxic scarlet fever; that it likewise promptly cures the specific toxic

TABLE I.—CASES TREATED WITH DOCHEZ'S UNCONCENTRATED ANTITOXIN.

Stage of Disease	Toxic Septic +			Toxic and Septic				Septic Toxic +			TOTAL (rash present)	Post-scarlat. Sepsis (rash gone)
Day of Disease	1	2	3	4	5	6	7	8	9	10		8 +
Ext. Severe {Toxic Tox.+Sep.		1	1								2, 10 <sup>1</sup> 12	3
Severe {Toxic Tox.+Sep.		4	2	2	2		1				11, 16 <sup>1</sup> 29	2
Mod. Severe {Tox. Tox.+ Sep.			4	15	3		1				23, 15 <sup>1</sup> 36	1
Mild {Tox. Tox.+Sep.		1	6	10	3	1					21, 7 <sup>1</sup> 28	1
TOTAL {Toxic Tox.+Sep.		1	15	28	8	3	1	1			57, 48 <sup>1</sup> 105	7
Summarized, Ex.s.+sev.	18 = 27.3 %			20 = 55.6 %				3 = 100 %			41 = 89.0 %	5
in {Mod. + Mild	46 = 72.7 %			16 = 44.4 %				0 = 0 %			64 = 61.0 %	2
{Toxic	44 = 66.7 %			13 = 36.1 %				0 = 0 %			57 = 54.3 %	
{Tox.+ Sep.	22 = 33.3 %			23 = 63.9 %				3 = 100 %			48 = 45.7 %	
Groups {TOTAL	66			36				3			105	7
Cured of Spec. Toxemia	66			35				3			104	
Benefit to {Prompt Rec.	14			11				0			25	
{Gradual "	7			10				1			18	
Septic {Doubtful	0			13				2			3	
Comp. {None	1 <sup>1</sup>			12				0			2	7
Recovered	66			35				3			104	5
Died	0			12				0			12	2

<sup>1</sup> Pre-existing staphylococcus osteomyelitis. <sup>2</sup> Ulcerative tonsillitis, cervical adenitis, thrombophlebitis, and septicemia. <sup>3</sup> Purulent rhinopharyngitis, cervical adenitis, otitis media, and mastoiditis.

cured within 12 to 36 hours irrespective of the severity of the disease at the time of treatment. All but 5 remained well; of these, two subsequently developed a mild non-suppurative cervical adenitis late in convalescence, one an otitis media, one a transient fibrinous pleurisy, and one an acute nephritis. All recovered satisfactorily. Of the 48 complicated cases all but one were promptly and permanently cured of the specific toxic phase of scarlet fever as shown by fall of temperature, rapid fading of the rash, and prompt neutralization of toxin in the blood. Their septic complications, however, were not immediately cured but subsided more or less rapidly depending upon the nature, duration and severity of the complication. In one extremely severe case with ulcerative tonsillitis, cervical adenitis, thrombophlebitis and septicemia, a single injection of

phase of toxic and septic scarlet fever but does not directly cure the septic aspects of the disease. Even though it does not directly cure the septic processes it nevertheless does unquestionably benefit them at least indirectly, during the period of specific toxemia, presumably by curing the scarlet fever itself and thereby placing the patient in a position to overcome even serious complications to which he might otherwise succumb. On the other hand it has shown no demonstrable effect on septic complications after the specific toxemia has terminated and the rash faded.

#### RELATION OF TIME OF TREATMENT TO THERAPEUTIC RESULTS

Analysis of the figures in Table I shows that 66 cases were treated on or before the third day of the disease, 36 cases were treated from the



fourth to the seventh days, 3 cases in whom the rash was still present were treated from the eighth to the tenth days, and 7 cases in whom the rash had faded were treated from the eighth to the twenty-seventh days. Correlation of these groups with the severity of the disease and the presence of septic complications at the time of treatment shows that of the 66 cases in the first group only 27.3 per cent. were

tance of the septic phase of scarlet fever as compared with the specific toxic phase steadily increases as the disease progresses. Since the therapeutic action of the antitoxin appears to consist almost entirely, if not solely, in its ability to cure the specific toxemia and the total therapeutic effectiveness in toxic-septic cases probably depends upon the relative importance of the specific toxic and the septic phases in the

TABLE II.— INCIDENCE OF COMPLICATIONS IN RELATION TO DAY OF DISEASE.

DAY OF DISEASE	1	2	3	4	5	6	7	8	9	10
Cervical abscess	1 <sup>1</sup>	1 <sup>2</sup>								
Miscellaneous	1	1	1		1		3	1	1	
Tracheitis, laryngitis or bronchitis.		1	1	2				1		
Moderate purulent rhinopharyngitis with or without sinusitis.		6	7	2	1		1			
Cervical adenitis		2		1	3	3			1	1
Ulcerative angina		1	1		3	1				
Ac. sup. otitis media			3	2	2	1	2	1		
Severe rhinopharyngitis with or without sinusitis.			1	3	4	1	1	1		1
Acute sup. meningitis				1						
Peritonsillar abscess					2		1			
Thrombophlebitis and septicemia					1					
Ac. sup. mastoiditis						1		1		

1. Infected tracheotomy wound following diphtheria. 2. Surgical scarlet fever following operation on cervical abscess.

severe to extremely severe and only 33.3 per cent. were complicated, while of the 36 cases in the second group 55.6 per cent. were severe to extremely severe and 63.9 per cent. were complicated; that the 3 cases in the third group were all extremely severe and complicated, and that the 7 cases in the last group were all cases of post-scarlatinal sepsis. It is, furthermore, important to note (Table II) that during the first three days the complications were in most instances relatively mild, while after this time the majority of them were relatively severe. It is apparent then that the relative impor-

particular case at the time the antitoxin is given, and since it is frequently impossible to predict early in the disease what the subsequent course will be, it follows that the best results will be obtained only when antitoxin is given early in the disease before the septic phase has become the dominating factor. That this is so, is borne out by the therapeutic results shown in Table I. In brief, antitoxin should be given in all cases as soon as the diagnosis is made. Under these circumstances, a critical cure may be expected and the probability that subsequent complications will develop is small. In cases

in which septic complications are present when the patient is first seen, antitoxin should likewise be given at once, provided the rash is still present. Under these circumstances a prompt cure of the specific toxic features of scarlet fever may be expected and the complications, if not too serious, will more or less rapidly subside. It should be emphasized here that in toxic-septic cases, even though the specific toxemia is cured, the temperature may remain more or less elevated because of the complication, and that the continued fever in itself should not be interpreted as a failure of the antitoxin to cure the scarlet fever nor as an indication for additional antitoxin, provided the rash has faded within 24 hours. As al-

dosage can be obtained by determining the presence of toxin and of antitoxin in the blood of patients before and at intervals after treatment. In order, then, to provide more definite evidence than can be obtained solely from clinical impressions, observations of this nature have been made in a series of cases of scarlet fever of varying ages and degrees of severity, treated with ten different lots of serum of varying antitoxin content per cubic centimeter. The methods employed and the results of the study follow:

**Methods.** The presence of toxin in the patient's blood was determined by the capacity of 0.3 c.c. of the patient's serum to produce a

TABLE III.—TITRATION OF THE COMPARATIVE STRENGTH OF 10 LOTS OF SCARLATINAL ANTITOXIN.

Antitoxin Lot	Titration of M.B.D.					Minimal blanching doses per c.c.	Skin test doses of toxin neutralised per c.c.*	Units of antitoxin per c.c.
	.01 c.c.	.002	.0004	.00008	.000016			
1. Dechex (conc.)	++	++	++	+	±	62,500 +	50,000 +	500 +
2. Dechex (unconc.)	++	++	+	±	-	12,500 +	10,000 +	100 +
3. A-77 ( " )	++	±	±	±	-	12,500	10,000	100
4. N.Y.S. ( " )	++	±	±	±	-	12,500	10,000	100
5. 357-9 ( " )	+	+	±	-	-	2,500 +	2,000 +	20 +
6. A-5 (conc.)	+	+	±	-	-	2,500 +	2,000 +	20 +
7. 342-9 (unconc.)	+	±	±	-	-	2,500	2,000	20
8. U.S. (conc.)	+	±	±	-	-	2,500	2,000	20
9. 351-9 (unconc.)	+	±	-	-	-	500 +	400 +	4 +
10. 375-9 ( " )	+	±	-	-	-	500 +	400 +	4 +

\* These tests were not done by the authors, but are believed to be approximately correct within the limitations of the method.

ready pointed out, little or no benefit may be expected in cases of post-scarlatinal sepsis after the rash has disappeared.

## OBSERVATIONS ON DOSAGE

As pointed out above, the object in view in the treatment of scarlet fever with antitoxin is the prompt neutralization of toxin and simultaneous establishment of a considerable excess of antitoxin in the circulating blood of the patient as early as possible in the disease. Theoretically, this excess should be sufficient to meet all needs until the patient has developed his own antitoxin in response to the infection. The amount of antiscarlatinal serum required to accomplish this result will vary with the size of the patient, the severity of the disease, and the antitoxin content of the serum used.\* Adequate information concerning

local reaction when injected intracutaneously in susceptible human volunteers according to the method previously described by Trask and Blake<sup>8</sup>. The amount of toxin was roughly estimated as +, ++, or +++ by the size, severity, and duration of the local reaction.

The presence of antitoxin in the patient's blood was determined by the capacity of 0.5 c.c. of the patient's serum to produce a positive Schultz-Charlton blanching test in patients with scarlet fever. The amount of antitoxin was roughly estimated as ±, +, or ++ by the size of the blanched area and the intensity of the blanching.

The antitoxin content of the different lots of serum used was measured by determining the smallest amount of serum that would produce a positive blanching test. The serums were diluted in 0.85 per cent. salt solution and a series of five dilutions in 0.5 c.c. volumes containing 0.01, 0.002, 0.0004, 0.00008, and

\*It will also vary somewhat with the method of injection. This aspect of the subject has not been studied, all patients in this series having been treated intramuscularly.

0.000016 c.c. of serum respectively were injected intracutaneously in scarlet fever patients with a suitable early, diffuse rash. The smallest amount of serum giving a positive blanching test was designated the minimal blanching dose (M. B. D.). Preliminary titrations of Dochez's unconcentrated antitoxin having consistently given an M. B. D. of 0.00008 c.c., the titrations of other lots of serum were accompanied by a parallel control titra-

tion of antitoxin in each dilution is only one-fifth of that in the preceding dilution so that the M. B. D. of any serum may be less than appears. Since an end point reading of  $\pm$  is regarded as a final end point or true M. B. D. (Lots 3, 4, 7 and 8), there can be little doubt that an antitoxin with an end point reading of  $\pm$  (Lots 1, 2, 5, 6, 9, 10) may contain up to four times but less than five times the number of M. B. D. per c.c. indicated by the end

TABLE IV

STUDIES ON DOSAGE IN MILD AND MODERATELY SEVERE CASES OF SCARLET FEVER TREATED WITH DOCHEZ'S UNCONCENTRATED ANTITOXIN (1 c.c. = 100 + UNITS)

CASE	AGE	CLINICAL SEVERITY	AMOUNT OF ANTI-TOXIN c.c.	TOXIN IN PT'S. SERUM BEFORE TREATMENT	ANTITOXIN IN PATIENT'S SERUM BEFORE AND AFTER TREATMENT WITH ANTITOXIN								ANTITOXIN IN PATIENT'S SERUM DURING CONVALESCENCE
					Day of Disease								
					2	3	4	5	6	7	8		
JR	12	Mild	35	++	- t	+							
MI	3	"	"	+		- t		++					
BC	5	"	"	+		- t	++						
HC	8	"	45	+		- t	++		++				
JD	6	"	50	+++		- t	++						
LW	10	Mod.Sev.	30	+	- t	++							
PD	10	" "	35	+	- t		++						
SN	6	" "	40	+			- t		++				
MD	10	" "	50	-	- t		++						
Day of Disease.													
AS	25	Mild	35	-	- t	++							15 19 41
FM	27	"	"	+		- t	$\pm$	++					10
LS	25	Mod.Sev.	"	+	- t	++							10
PF	32	" "	"	++		- t		$\pm$					13
EJ	16	" "	"	-		- t		$\pm$					13
ES	19	" "	"	+				- t	+				10 16 32
JD	17	" "	40	+					- t	+			
MP	26	" "	"	+						- t	+		
AB	35	" "	"	++						- t	+		

t. Indicates treatment with antitoxin.

tion with Dochez's serum in the same patient at the same time.

**Titration of Antitoxin Content of Serums.** Ten different lots of antitoxin were tested to determine their relative strength in terms of minimal blanching doses of antitoxin per c.c. of serum. The results of repeated titrations are summarized in Table III. It will be seen that the M. B. D. per c.c. ranged from 62,500+ in the strongest serum down to 500+ in the weakest. While this method of standardizing antitoxin has been satisfactory for comparative purposes it has obvious limitations. The most important of these is the fact that the amount

point. This is indicated by placing a + after all figures purporting to show the antitoxin content of such lots of serum. For the sake of comparison with the method of antitoxin standardization advocated by Dick and Dick<sup>2</sup> and now in general use the number of M. B. D. per c.c. has been translated into the number of skin test doses of toxin neutralized per c.c. and in turn into units per c.c., taking one unit as equivalent to the amount of antitoxin that will neutralize 100 skin test doses of toxin.

**Observations on Patients.** Thirty cases treated with Dochez's unconcentrated antitoxin were first studied. The results are shown in

Tables IV and V. From Table IV it is clear that 30 to 40 c.c. of a serum containing 12,500+ M. B. D. per c.c. given intramuscularly is sufficient to neutralize promptly the toxin and establish an adequate excess of antitoxin in the blood of all mild or moderately severe cases of scarlet fever in both children and adults. In the 12 severe cases studied (Table V) amounts of serum ranging from 40 to 195 c.c. were used, usually in divided doses. Analysis of the results shows that the repeated doses were rarely necessary and that 40 to 80 c.c. in children, 70 to 120 c.c. in adults, of a serum containing 12,500+ M. B. D. per c.c. may safely be considered the maximum doses required in severe cases.

Twenty-one patients were treated with other

antitoxin of this strength the following intramuscular dosage is recommended:

	Mild and Moderate	Severe	Extremely Severe
Children	30 to 40 c.c. (3000 to 4000 units)	40 to 60 c.c. (4000 to 6000 units)	80 c.c. (8000 units)
Adults	40 c.c. (4000 units)	60 to 80 c.c. (6000 to 8000 units)	80 to 120 c.c. (8000 to 12,000 units)

#### CONCLUSIONS

1. Scarlatinal antitoxin in proper amount is a specific and prompt cure for uncomplicated scarlet fever.

TABLE V

STUDIES ON DOSAGE IN SEVERE CASES OF SCARLET FEVER TREATED WITH DOCHIEZ'S UNCONCENTRATED ANTITOXIN  
(1 c.c. = 100 + UNITS)

CASE	AGE	CLINICAL SEVERITY	AMOUNT OF ANTITOXIN c.c.	TOXIN IN PT'S. SERUM BEFORE TREATMENT	ANTITOXIN IN PATIENT'S SERUM BEFORE AND AFTER TREATMENT												
					DAY OF DISEASE												
					2	3	4	5	6	7	8	9	10	11	12	13-25	
MR	6	Ext. Sev. Tox.	45-50-50-50	++	-	tt	+++	++		++							24
OW	10	Very " "	80	++	-	tt	++	++	++								24 26
JD	7	Ext. " Tox.+Sep.	40 - 35	+			-	tt	++				++				24
OS	5	Very " "	70 - 40	+			-	tt	++								
ER	13	Ext. " Sep.+Tox.	35 - 40	++					-	tt			++				
ME	7	" " " "	40 - 75	+							-	tt	++	++			
LS	21	Very " Tox.+Sep.	75	+	-	tt	++										20
DO	19	Severe Tox.	70	+	-	tt		+									
LE	13	" "	40	++		-	tt	+									13 14
OW	21	" "	85	+				-	tt	++							
JH	22	Ext. Sev. Sep.+Tox.	90-45-50	-				-	tt	++	++	++					21
MY	38	" " Tox.+Sep.	75 - 75	++						-	tt	++	++				

t. Indicates treatment with antitoxin

lots of antitoxin. The results are shown in Table VI. This shows that an antiscarlatinal serum to be therapeutically efficient in reasonable dosage should contain at least 12,500 M. B. D. of antitoxin per c.c. or in other words, should be able to neutralize at least 10,000 skin test doses of toxin per c.c. which is equivalent to 100 units per c.c. This is ten times as strong as the standard advocated by Dick and Dick.<sup>2</sup> It also shows that a serum containing 2500 M. B. D. per c.c. (2000 skin test doses of toxin neutralized per c.c.) is of very doubtful therapeutic value and that one containing 500 M. B. D. per c.c. (400 skin test doses of toxin neutralized per c.c.) is of no value.

In view of the data presented above it is believed that satisfactory therapeutic results will be obtained only when an antitoxin sufficiently strong to neutralize at least 10,000 skin test doses of toxin per c.c. is employed. With an

2. It indirectly benefits septic complications during the acute stage of scarlet fever, presumably by curing the specific toxemia.

3. It has not been possible to demonstrate that it possesses any therapeutic value in post-scarlatinal sepsis after the rash has faded.

4. To be therapeutically efficient in reasonable dosage an antiscarlatinal serum should contain at least 12,500 minimal blanching doses of antitoxin per c.c. or be able to neutralize at least 10,000 skin test doses of toxin per c.c.

5. The amount of antitoxin required to cure scarlet fever promptly and with certainty by intramuscular injection varies from 3000 units to 12,000 units (30 to 120 c.c. of a serum which neutralizes 10,000 skin test doses of toxin per c.c.) depending upon the size of the patient and the severity of the disease.

6. To obtain the best therapeutic results the



full amount of antitoxin required in each case should be estimated and given at once as soon as the diagnosis is made.

## DISCUSSION

DR. EUGENE R. KELLEY, Boston: It may be of interest to the fellows of the Society to know the general plan that the State Department is following with relation to the scarlet fever serum.

We are immunizing horses at Forest Hills for the production of the Dochez serum and we

have been exposed, not because it will not prevent the disease but for the reason that most of the serums now used produce serum sickness, which is alarming to the parents; and, secondly, the susceptibility to scarlet fever is not comparable to that of measles or chickenpox, and many children who have been exposed will not get it; furthermore, the cure is prompt when the antitoxin is used. For these reasons we prefer not to give the antitoxin as a prophylactic measure at the present time, but to reserve it for use if the patient gets the disease.

TABLE VI

STUDIES ON DOSAGE WITH 10 DIFFERENT LOTS OF SCARLATINAL ANTITOXIN OF VARYING ANTITOXIN CONTENT PER CUBIC CENTIMETER OF SERUM

ANTITOXIN LOT	U.S.D. PER C.C.	S.T.D. NEUTRALIZED PER C.C.	UNITS ANTITOXIN PER C.C.	AGE IN MONTHS	SEX	CLINICAL SEVERITY	AMOUNT OF SERUM C.C.	UNITS OF ANTITOXIN	SKIN IN SERUM BEFORE TREATMENT	ANTITOXIN IN PATIENT'S SERUM BEFORE AND AFTER TREATMENT						THERAPEUTIC EFFECT
										DAY OF DISEASE						
										1	2	3	4	5	6	
Dochez (conc.)	62,500+	50,000+	500+	10	F	Mod. Severe	25	12,500+								Cured
"	"	"	"	"	"	Sev. Tox.+Sep.	"	"	++	+						"
"	"	"	"	"	"	Mod. Severe	"	"	-	+	++					"
"	"	"	"	"	"	"	"	"	+	+						"
"	"	"	"	"	"	Ext. Sev. Tox.+Sep.	25-35	25,000+	+++			-	+	++	++	"
Dochez (unconc.)	12,500+	10,000+	100+	18	F	Mild and Moderate	30-50	3000-5000+	-to+++	(See Table IV)						"
Summary	"	"	"	12	F	Vary Severe	35-135	3500-13500+	-to++	(" = V)						"
A-77 (unconc.)	12,500	10,000	100	BB	6	Mild	35	3500	+	-	+					"
"	"	"	"	JK	5	Mod. Severe	40	4000	++			-	+	+		"
"	"	"	"	MR	8	Severe	"	"	+	-	+					"
K.T.S.	"	"	"	SP	24	Mod. Severe	"	"	+	-	+					"
357-9	2,500+	2,000+	20+	FJ	8	Mod. Severe	35	700+	++	-	+	+				"
A-5 (conc.)	"	"	"	JB	9	"	40	800+	++	+						"
"	"	"	"	HP	25	Mild	35	700+	+++					-	±	"
"	"	"	"	CM	21	Severe	"	"	+			-	+			None
543-9 (unconc.)	2,500	2,000	20	FJ	20	Mild	"	700	+	-	+	-				"
U.S. (conc.)	"	"	"	EW	7	"	40	800	+	-	+	-				"
"	"	"	"	WS	9	"	"	"	+			-	+			"
"	"	"	"	BS	23	"	"	"	+			-	+			"
551-9 (unconc.)	500+	400+	4+	3	4-13	"	"	160+		(1)†	(2)†	(3)†				"
573-9	"	"	"	BS	6	Mod. Severe	"	"		†						"

†. Indicates treatment with antitoxin.

hope in the near future to send out through the BOSTON MEDICAL AND SURGICAL JOURNAL a notice to the physicians of the State as to the availability of this serum and a designation of the stations throughout the State where the serum will be available with a request that physicians call for the antitoxin for only the severe cases on the ground that our supply is limited. Eventually we will have to obtain sufficient funds from the Legislature to make additions to our plant and place the antitoxin serum on the same basis in manufacture and production as is the diphtheria antitoxin at the present time.

DR. FRANCIS G. BLAKE, New Haven (Closing): One word as to what we recommend in regard to the prophylactic use of the antitoxin—at the present time we do not recommend its use as a prophylactic measure in children who

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## ORIGINAL ARTICLES

## COMMENTS ON THE SURGERY OF CARCINOMA OF THE STOMACH\*

BY F. B. LUND, M.D., BOSTON, MASS.

WHEN a surgeon writes a paper on carcinoma of the stomach, he usually begins by an indictment of the medical men for sending him cases too late. And it is a fact that, in my experience at least, most cases of carcinoma of the stomach have come to me too late for anything more than an exploratory laparotomy. This is sometimes the fault of the medical consultant, but often that of the patient. Carcinoma at the pylorus causes early obstruction, and this is fortunate, for symptoms of pain and vomiting and loss of weight, etc., almost compel the patient to consult a physician. Also, a tumor can be felt in this region ordinarily much earlier than in the commoner situation on the lesser curvature, which is situated under cover of the liver, so that often the tumor does not become palpable till it has attained great diameter, extending the tumor laterally to a great distance, and involving the mesogastrium, the glands along the spine, the gastro-colic omentum, pancreas, and even the colon, and frequently causing multiple peritoneal metastases and even slight ascites. A cancer which has caused multiple metastases and ascites is, of course, incapable of removal, and the recognition of ascites before a contemplated operation, together with X-rays showing extensive involvement, contraindicates to my mind even exploratory operation. The extent to which a cancer of the lesser curvature can grow before the patient consults his physician may be truly remarkable. A man whose name is known to all of you for his services to the medical profession, to the animal kingdom, and to humanity, an outdoor man, who prided himself on his physical prowess, consulted his physician last September on account of slight indigestion and gas in his stomach. An X-ray showed extensive irregularity of the lesser curvature, without obstruction. Operation six days after his physician saw him disclosed a carcinoma beginning on the lesser curvature of the stomach, including about two-thirds of that organ. Metastases were present on the surface of the colon, in the lesser and greater omentum, and the stomach was so adherent to the pancreas that it could not be drawn up into the abdominal wound. This patient finally confessed that he had had indigestion for six months, but his strength had been so little affected that about two months before I saw him he had walked forty miles in one day.

Apart from the presence of metastases, it is impossible safely to resect a stomach unless it can be drawn out of the abdominal wound and

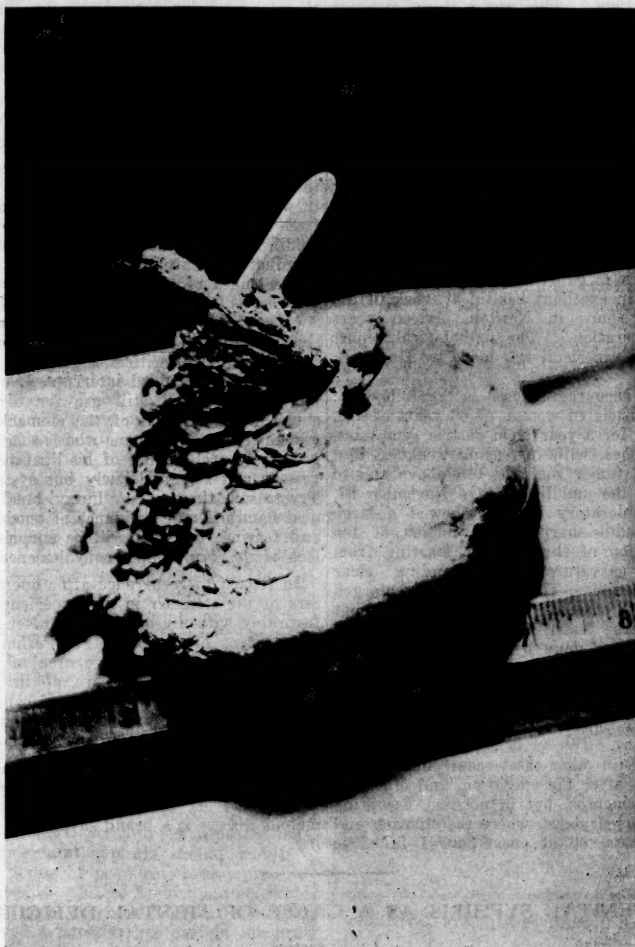
the arteries of the lesser curvature safely tied in healthy tissue beyond the growth. If this can be done, it is always possible to effect a repair of what tissue may be left, sometimes even if it is necessary to make the resection close up to the esophagus. Extensive involvement as shown by the X-ray does not necessarily mean that a successful resection cannot be done, as it may be found that in spite of extensive involvement of the stomach, metastases have not occurred, nor involvement of the pancreas to such an extent as to prevent mobilization of the stomach.

In a case that came to the Boston City Hospital this winter, an extensive resection of the stomach was performed, together with a resection of the colon, without undue prolongation of the operation, without shock, and with recovery sufficient to enable the patient to go home from the hospital. A brief report of this case may be of interest. J. G., age 56, a blacksmith, was transferred to my service in December, 1924. Gastric symptoms for four years; marked loss in weight; secondary anemia. A freely movable mass the size of a baseball was felt in the epigastrium. X-ray showed an extensive narrowing of the lumen of the stomach with irregular edges. On December 13 an epigastric incision was made and the mass was found to be an extensive carcinoma involving half the stomach, the growth extending onto and involving the adherent colon, and also adherent to the pancreas. This adhesion to the pancreas, however, did not interfere with the mobility of the growth, as the posterior attachments of the pancreas were so loose that the growth, stomach, pancreas and all could be drawn out through the abdominal wound. Double clamps were placed on the transverse colon and it was divided, leaving about eight inches attached to the stomach; the duodenum was clamped and divided close to the pylorus and the lower end closed by a double purse-string suture. The stomach was divided above the growth, and the growth with the colon attached separated with some difficulty from the pancreas, to the central portion of which it was adherent. It was suspected that there was some involvement of the pancreas, which was thickened and hard, though no actual cancerous tissue could be seen in it. The repair was accomplished by the anterior Polya method, sewing the side of upper loop of the jejunum to the opening of the stomach, after partially closing the redundant opening so as to reinforce that union. Two layers of sutures were employed, both of catgut, the inner line

\*Read by title at meeting of the American Gastro-Enterological Association, at Atlantic City, May 25, 1928.

inverting and comprising all the coats, and the outer the right-angled continuous suture of Cushing. An end to end suture of the colon was performed, using two layers of the same continuous suture. Time of operation, one

the medical side for diet and care before he went home. At home, his strength did not improve and he died on February 10, 1924. Autopsy showed recurrence starting in the pancreas and involving the new pylorus.



Carcinoma of the stomach, with adherent transverse colon. The tongue depressor runs through the colon. The inch rule does not show the full size of the specimen, as the picture was not taken until after the specimen had been placed in preserving fluid, thereby shrinking it.

This is Case II in the paper—operation on J. G.

hour and fifteen minutes. No shock; good ether recovery; vomited once on the first and second day, but vomiting was immediately checked by stomach washing; slowly improved in strength. He was kept in the hospital on

This case, though not successful in prolonging life, is reported to show that if one employs time-saving methods and is fortunate, an extensive resection of the stomach and colon may be successfully accomplished without undue

danger. It is not true that an extensive growth, if one can get clear round it, is a bar to a fairly permanent arrest of the disease.

I wish to put on record the case of Joseph Dawson, a machinist, 44 years of age, who was operated upon by me at the City Hospital on August 16, 1909. This was a thick, globular growth the size of a baseball, extending from halfway between the cardia and pylorus, nearly to the latter opening. It was slightly adherent to the pancreas, but evidently had not involved it. The man had symptoms for six months, with emaciation and anemia, and, on account of these conditions, in addition to the size of the tumor, an early recurrence was rather expected. Gastro-intestinal X-ray examinations were not available at that time. There was blood in the stomach contents, but no stasis, as shown by the stomach tube. A resection was performed by the Billroth No. 2 method. The patient began to gain in weight and strength, and is now in excellent health, at work in the Saco-Lowell shops in Newton, sixteen years after the operation. The pathological report of carcinoma ventriculi was made by Dr. F. B. Mallory.

A second encouraging case is the following: A. M., an emaciated woman of 60 years of age, had suffered for a year from gastric symptoms, bloody diarrhea, with increasing weakness and anemia. A tumor could be felt above and to the right of the umbilicus. On November 27, 1910, an exploratory incision showed a large indurated saddle-shaped carcinoma of the pyloric portion of the stomach, starting from the lesser curvature and extending clear around the organ. There were a few enlarged glands on the base of the great omentum, but none along the lesser curvature. A partial gastrectomy was done by the Billroth No. 2 method. She made a good recovery and today is well except for infirmities incident to her age, fifteen years after the operation. The pathological report by Dr. Mallory was carcinoma.

I have had in other cases recurrences as late as five years after the operation, and others as early as six months, but in no case, excepting the one reported above, where the stomach and colon were resected at once, have I failed to

secure in the cases which have survived the operation an immediate and rapid improvement in weight, health and strength for a considerable period. I have lost a number of cases through attempting operation in growths which, after operation was started, were found to extend too far down along the duodenum to allow a safe and secure closure of that organ in uninvolved tissue. A simultaneous resection of the stomach and colon in a previous case resulted in an operative fatality.

In regard to the type of resection, I still do the Billroth No. 2 operation in cases which do not extend too far toward the left, toward the cardia. For extensive resections, I have found the Balfour modification of the Polya operation, in which the loop of jejunum is brought up in front of the colon, safe and satisfactory. The modification of partially closing the stomach opening, but suturing the intestine along the whole length of the closure, I believe prevents kinking, as well as strengthens the line of union. Two rows of catgut suture are enough. The continuous suture saves valuable time and may be reinforced at critical angles and suspicious points by a few added interrupted sutures. The electric cautery I still use for dividing the stomach. Resection of the stomach is not a difficult operation for one who is schooled to get good exposure, be sure of his ligatures of large vessels, and operate slowly but systematically. Try to save time, not by hurry, but by careful, neat handling and avoidance of tension, pulling and tearing, and one will be surprised at the lack of shock and rapid convalescence.

In regard to recurrence after operation, cancers of the stomach in my experience compare favorably with my own results after operations for cancers of the breast. Perhaps because there is such an extensive area of lymphatic drainage to be taken care of in the latter disease. At any rate, cases of cancer of the breast free from recurrence for fifteen years are not actually abundant in my experience.

A desire to encourage our persistence in this field of effort is my reason for these few case reports, for every case of long arrest of carcinomatous disease is a brand saved from the burning.

## CONGENITAL SYPHILIS AS A CAUSE OF MENTAL DEFICIENCY

### I. Statistics

BY NEIL A. DAYTON, M.D., WRENTHAM, MASS.

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The Wassermann census of the Wrentham State School was completed in April, 1922, when the writer took a total of eleven hundred and twenty-two specimens of blood from chil-

dren previously untested. The reports on reactions before that date and those up to July, 1925, are included in this communication. The reactions were done at the Harvard Wasser-



mann Laboratory. The results of these tests were not of the accepted average and prompted study of other available material.

#### PURPOSE

(1) To assemble the results of studies of congenital syphilis as a cause of mental deficiency, and to report the incidence of this disease in the population of the Wrentham State School.

(2) To compare the results of the foregoing with the incidence of congenital syphilis in children not mentally deficient.

(3) To form an opinion as to the relative importance of congenital syphilis as a cause of mental deficiency.

#### LITERATURE

In the early days of the Wassermann reaction, mental deficiency did not escape the popular tendency of the times to place the responsibility for unexplained diseases on syphilis. Before the advent of the Wassermann reaction the diagnosis of syphilis in the mentally deficient was a rare occurrence, observations based on clinical evidence alone being, for the most part, under one per cent. With the help of this diagnostic aid it was discovered that many of the feeble-minded who presented no outward manifestations of the disease had a positive blood serum. This marked increase caused many writers to turn to syphilis as a major causative factor. The early writings from widespread points apparently supported this assumption. In Germany Gordon<sup>1</sup> reported sixteen per cent. of positive reactions among the feeble-minded, in the United States Atwood<sup>2</sup> wrote of fourteen per cent., and in England Fraser<sup>3</sup> found forty-eight per cent. of positive Wassermanns. The large numbers of premature deaths in the offspring of syphilitic parents and the high mortality rate in infancy gave investigators reason to believe that the existing large numbers of cases among the feeble-minded were simply the survivors of a still larger group. A group never attaining an age at which they could be considered defective. With the well known predisposition of the Treponema for nerve structure it appeared logical that congenital syphilis should manifest itself in its points of predilection and produce a defective brain. These factors united made the inference seem incontestable that inherited syphilis played a much larger part in the production of mental degeneracy than was supposed<sup>4</sup>. This was presumably accomplished by in some way injuring the vitality of parent or offspring<sup>5</sup>. It was only a step further to the thought that individuals in whom syphilis is unrecognized and untreated should be regarded as potential parents of mentally deficient children<sup>6</sup>. This early general trend of thought has carried down to the present decade and in

1921 it was stated that imbecility and idioecy are the result of syphilis<sup>7</sup>.

That the graver forms of defect follow syphilis has not been entertained by all writers. Southard<sup>8</sup> writes that syphilis is a direct cause of the simple form in a few cases and the point has been made that with so many favorable factors acting in conjunction it is indeed to be wondered at that we do not have many more defectives<sup>9</sup>. Even those who find a high rate of incidence are convinced that there must be some other factor of importance beside the syphilis<sup>10</sup>. This is aptly expressed by one writer who states<sup>11</sup> that a child with congenital syphilis may have a coexistent feeble-mindedness which is hereditary ad not in any way caused by syphilis. In fact it seems a little difficult to reconcile syphilis as a direct cause of mental deficiency if we are to subtract the many other factors with which it is usually associated<sup>12</sup>. But few of the writers, however, have considered the presence of hereditary mental defect as deserving of consideration. Usually the diagnosis of congenital syphilis had made it a foregone conclusion that the defect was caused by syphilis.

TABLE 1  
INCIDENCE OF CONGENITAL SYPHILIS IN DEFECTIVES  
IN THE UNITED STATES

Author	Location	Year	Number Examined	Positive Wasser- mann Reactions	Per Cent. Positive
Haines and Partlow <sup>13</sup>	Alabama	1920	59	13	22.0
Dawson <sup>14</sup>	California	1914	1,113	53	4.7
Haines <sup>15</sup>	Massachusetts	1914	63	20	29.4
Lucas <sup>16</sup>	Massachusetts	1913	74	27	36.4
Solomon <sup>17</sup>	Massachusetts	1922	1,555	70	4.5
Dayton <sup>18</sup>	Massachusetts	1925	1,756	60	3.4
Moulton <sup>19</sup>	Minnesota	1914	600	16	2.6
Walker <sup>20</sup>	Maryland	1916	480	14	2.9
Atwood <sup>2</sup>	New York	1910	204	30	14.7
Barenberg <sup>21</sup>	New York	1922	31	0	0.0
Weiss <sup>22</sup>	New York	1924	1,633	41	2.5
McKay <sup>23</sup>	Ohio	1915	1,550	132	8.5
Higgins <sup>24</sup>	Virginia	1918	50	21	42.0
Total			9,183	497	5.4

#### CONGENITAL SYPHILIS IN MENTAL DEFECTIVES

The greater part of previous reports have considered that the syphilis observed was congenital. To make my figures conform with this standard no attempt will be made at this point to bring out the possibilities of error in this assumption. In the group of cases at the Wrentham State School 1756 specimens of blood were taken for the Wassermann reaction and 60 proved to be positive and 8 doubtful. Then,

if we accept the current reasoning, three and four tenths per cent of our defectives are directly traceable to syphilis. That there are other factors which should be considered in this connection will be taken up in another communication. Referring to Table 1, we find that these figures are considerably under the average, the total of 9,183 cases from thirteen sources giving an average of 5.4 per cent positive. In interpreting results it should be remembered that the larger groups examined as in the United States represent entire institution populations and that in these there is less selection of cases. It was found that the literature of other countries was largely comprised of small groups of selected cases. In these the results were far from uniform and might lead to false conclusions. For this reason they have been omitted and only studies in this country included.

TABLE 2  
INCIDENCE OF CONGENITAL SYPHILIS IN NON-DEFECTIVES  
IN THE UNITED STATES

Author	Location	Year	Number Examined	Positive Wassermann Reactions	Per Cent. Positive
Whitney <sup>23</sup>	California	1915	890	26	2.9
Churchill <sup>24</sup>	Illinois	1912	101	29	28.0
Churchill <sup>25</sup>	Illinois	1916	695	23	3.3
Jeans <sup>26</sup>	Missouri	1921	389	22	5.6
			449	5	1.1
Johnson <sup>27</sup>	Missouri	1917	224	76	33.9
Holt <sup>28</sup>	New York	1913	178	11	6.1
Lawrence <sup>29</sup>	New York	1922	11,205	257	2.3
Burnhams <sup>30</sup>	Ohio	1921	450	28	6.2
			88	5	5.7
Haines <sup>31</sup>	Ohio	1916	365	76	20.8
Roddy <sup>32</sup>	Pennsylvania	1915	66	8	12.1
Rosenberger <sup>33</sup>	Pennsylvania	1917	56	8	14.0
Royster <sup>34</sup>	Virginia	1921	1,000	125	12.5
Total			16,156	699	4.3

#### CONGENITAL SYPHILIS IN NON-DEFECTIVES

A comparison between syphilis in the feeble-minded and syphilis in the general adult population shows the former figures to be considerably under the accepted general average of 10-20 per cent. However, the futility of comparing the congenital and acquired forms is obvious. The study of congenital syphilis in children not mentally defective will present statistics which will offer the best means of comparison and be most valuable in forming an opinion as to their relative incidence. In compiling this an attempt has been made to preserve the comparison between age groups. Children adjudged feeble-minded before the age of two years are decidedly in the minority and so only two reports based on infant population exclusively

have been included. In Table 2 we have 16,156 children subjected to the Wassermann test from twelve sources. Congenital syphilis is demonstrated in 4.3 per cent. It is true that the greater part of these were general hospital or clinic children and were admitted as sick. The feeling that the comparison for this reason is not a just one disappears if we consider that mental defect is also an impairment of function and that the schools for the feeble-minded are only special hospitals for treating this type of case.

#### CONCLUSIONS

A comparison between the incidence of congenital syphilis in mental defectives and in non-defectives shows only a slight margin of difference. In those mentally defective congenital syphilis is present to the extent of 5.4 per cent (Table 1). In those not defective it is noted in 4.3 per cent of cases (Table 2). The difference of 1.1 per cent is not one which would warrant a positive statement as to the importance of congenital syphilis as a cause of mental deficiency.

#### SUMMARY

(1) A review of 9183 cases of mental defect given the Wassermann reaction revealed 497 with a positive reaction, a percentage of 5.4 supposedly due to syphilis.

(2) A review of 16,156 cases of non-defective children given the Wassermann test revealed 699 with a positive reaction or 4.3 per cent.

(3) In the 1756 cases at the Wrentham State School tested by the same means 60 or a percentage of 3.4 reacted positively.

(4) From these statistics it would appear that congenital syphilis is not of great importance as a causative factor in mental deficiency.

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## CONGENITAL SYPHILIS AS A CAUSATIVE FACTOR IN MENTAL DEFICIENCY

### II. Analysis of Cases

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In a previous communication it was demonstrated that the incidence of congenital syphilis in mental defectives is one per cent. higher than in mental normals<sup>1</sup>. From purely the statistical standpoint this would indicate that congenital syphilis is the cause of a definite, though small, percentage of mental deficiency. This would obtain if syphilis is the only factor which might be considered as producing the defect. An investigation of the positive cases at the Wrentham State School will show if there are other factors involved. These facts will demonstrate whether or not congenital syphilis is of the importance that the statistics indicate.

#### PURPOSE

1. To review the histories of the sixty cases of mental deficiency at the Wrentham State School having a positive Wassermann reaction.

2. To determine if these histories present other etiologic factors in addition to congenital syphilis, which might contribute to the causation of the defect.

3. To prove or disprove the common belief that the presence of a positive Wassermann in the feeble-minded is conclusive evidence that the mental defect was caused by congenital syphilis.

#### OBSERVATIONS

The histories of the sixty cases of mental deficiency with a positive Wassermann were carefully scrutinized for other factors which might have a bearing on the cause of the defect. The first fact to become obvious was that there were several of these cases in which the syphilis was acquired. The sixty cases classified in four groups as follows:—

1. Syphilis which was acquired; mental de-

ficiency in patient. Seven cases or 11.6 per cent. of the positive group.

2. Parental mental deficiency; congenital syphilis and mental deficiency in patient. Sixteen cases or 26.6 per cent. of the positive group.

3. Parental mental disease; congenital syphilis and mental deficiency in patient. Seven cases or 11.6 per cent. of the positive group.

4. Histories negative; congenital syphilis and mental deficiency in patient. Thirty cases or 50 per cent. of the positive group.

These groups will be discussed separately and a case report of each group will be given. These case reports have been selected as ones best demonstrating the typical findings of the particular group.

Group 1. Syphilis which was acquired; mental deficiency in patient.

With the increased interest in mental deficiency as a social problem a larger number of the higher grade cases are being referred to the schools for the feeble-minded by clinics, courts, and various social agencies. A large part of these are moron girls in whom sex delinquency is the chief problem. It is inevitable that a certain percentage of these should acquire syphilis. To consider syphilis in these cases as a cause of mental deficiency is to court error. Mental deficiency predisposes to conduct which, in time, will lead to the acquisition of syphilis, so we should scrutinize our cases carefully for those which present the acquired form of the disease. It is possible that this lack of discrimination has had some part to play in the relative high incidence of syphilis in the feeble-minded as reported by many writers. The following case illustrates the factors operating in this group.

CASE 1. The patient as a child was considered average mentally until the age of ten, when she became uninterested in her studies. Immorality began at nine with a miscarriage at thirteen years. She admitted overwhelming impulses to seek the company of men and at these times she would leave her home for days, going with any man available and often with several in one day. Her uncontrollable eroticism caused her commitment to the Taunton State Hospital at the age of nineteen years. While there she exhibited no symptoms suggesting a psychosis and in six months was released. A few weeks later returned with a gonorrheal infection. Following her second release, a few months afterward, she soon resumed her previous promiscuity. This caused her mother to enter a complaint against her and at the age of twenty-one she was sent to the Reformatory for Women. While there

sypilis we immediately disregard the parental mental defect and place the sole responsibility on sypilis. Why this has been the case is hard to explain, as a satisfactory explanation of the *modus operandi* in the production of a defective child by sypilis has never been forthcoming. The family histories in Cases 2 and 3 following bring out factors which are common in the causation of mental defect.

CASE 2. Father was an alcoholic, immoral, cruel to members of the family and finally deserted them. Mother also an alcoholic, took drugs whenever she could get them, was grossly immoral, had a court record and was feeble-minded.

CASE 3. A maternal uncle was feeble-minded. The mother of the patient was committed as mentally deficient at the age of twelve and later released. After a varied career she mar-

ANALYSIS OF 60 CASES OF MENTAL DEFICIENCY WITH POSITIVE WASSERMANN REACTION

Group	Number	Sex		Mental Classification				Per Cent. of the 1756 Exam- ined
		M.	F.	Dull or Border- line	Moron	Im- becile	Idiot	
1. Acquired Syphilis								
Mental deficiency in patient	7	0	7	1	6	0	0	.3
2. Parental Mental Defect								
Congenital syphilis in patient	16	3	13	3	7	6	0	.9
Mental defect in patient								
3. Parental Mental Disease								
Congenital syphilis in patient	7	2	5	0	2	4	1	.3
Mental defect in patient								
4. History Negative								
Congenital syphilis in patient	30	10	20	5	11	11	3	1.7
Mental defect in patient								
Totals	60	15	45	9	26	21	4	3.4

characteristic lesions made their appearance and the Wassermann reaction was positive. In two years she was released and immediately ran away from her home and lived with different men.

By no stretch of the imagination can cases of this type be considered as caused by syphilis. They demonstrate well the difficulty of extra-institutional control of the feeble-minded girl and also suggest the hypothesis of mental deficiency as a cause of syphilis rather than syphilis as the cause of the deficiency.

Group 2. Parental mental deficiency; congenital syphilis and mental deficiency in patient.

In considering the causative factors of mental deficiency we usually regard an heredity of mental defect as most significant. If these mental factors are associated with alcoholism, tuberculosis or other severe somatic disorder we still consider them of paramount importance. We do not say that the alcoholism or tuberculosis was the cause of the mental defect but rather that the familial feeble-mindedness is responsible. In dealing with a case presenting the same heredity of mental defect in combination with

ried and shortly afterward left her husband to live with a negro. During this period she contracted syphilis and gonorrhea and a few months later gave birth to the patient. With such individuals as parents of these children it is a little difficult to feel that the resulting defect was due to syphilis alone.

Group 3. Parental mental disease; congenital syphilis and mental deficiency in patient.

The disregard of familial mental disease is also common. Here we have at least a functional disorder of the mind and possibly mental and physical degenerative processes in the antecedents of the defective child. Admittedly not an identical process but at least one closely allied. The following family history would suggest that we are overlooking a more natural and logical cause of the defect when we accuse syphilis.

CASE 4. Maternal grandparents were alcoholic and considered peculiar individuals with very low standards of living. Maternal aunt was a prostitute. Mother was very intemperate, had a vicious temper and was reported as beating her children on slight provocation. She went through a mental disturbance following the



birth of one of her children and her conduct has been very erratic since. A sister and half-brother of the patient developed psychosis and were committed, another sister was feeble-minded and had defective children.

Group 4. Histories negative; congenital syphilis and mental deficiency in patient.

Under this heading were placed the cases which did not have factors which would include them in the three preceding groups and those in which the history was incomplete. These are the cases which might be credited to congenital syphilis as there were no obvious mental factors operating. One interesting fact was noted. In a majority of these cases the children lived under the poorest of conditions with little food or clothing and were often abused. Alcoholism was common in both parents.

#### CONCLUSIONS

The accompanying table presents the summary of these cases in graphic form and shows that in the Wrentham group the greater portion of the positive cases have other powerful contributing factors besides syphilis. In fact only 30 of the 60 positives could be considered as resulting solely from syphilis. This method of approach reduces by 50 per cent. the number of cases we have previously considered as caused by congenital syphilis. Only one conclusion is possible and that is that syphilis is decidedly of less importance as an etiologic factor in the production of mental deficiency than the statistics would indicate. Further, the presence of a positive Wassermann reaction in the feeble-minded is not conclusive proof that the mental defect was not caused by other factors than syphilis.

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### THREE UNUSUAL CASES

BY F. VAN NUYS, M.D., WESTON, MASS.

#### CASE I. AURICULAR FIBRILLATION UNDER PROLONGED QUINIDINE TREATMENT

Mr. C., retired from business, is a short, heavy (174 lbs.) man, 64 years old, of good family and personal history save for former occasional indulgence in alcohol.

During the summer of 1924 he was in his usual good health. He chopped wood every day for exercise. In August he took sick, after a short drinking bout, with vomiting, dyspnea, edema of legs, precordial pain, and cough. Physical examination at this time showed a moderately enlarged and fibrillating heart, edema of legs, some angina, slight cyanosis, and blood pressure of 128/95. Blood, urine and other data were negative.

For two and one half months digitalis was tried repeatedly in large doses—up to 2.4 gm. of the powdered leaves in a period of seven days—before anorexia or nausea would ensue. He seemed peculiarly resistant to the drug although the leaves used proved potent in other patients. Whether this were due to poor absorption, or rapid elimination, or to some unrecognized idiosyncrasy is not known. It had little or no effect on the arrhythmia. Evidently he had a good heart muscle to withstand a constant fibrillation which frequently kept the apex rate between 160 and 190. Strychnine, caffeine, and quinine failed utterly. He required opiates for sleep and relief of cough. Dr. William D. Reid, in consultation on September 2, advised quinidine treatment in a hospital. The patient, however, preferred to continue treatment at home. On October 31, as he was

becoming steadily worse he was taken to the Waltham Hospital.

The accompanying chart illustrates the action of the drug during one week of the three he was in the hospital.

#### RESULTS OF THE EXPERIMENTATION WITH QUINIDINE

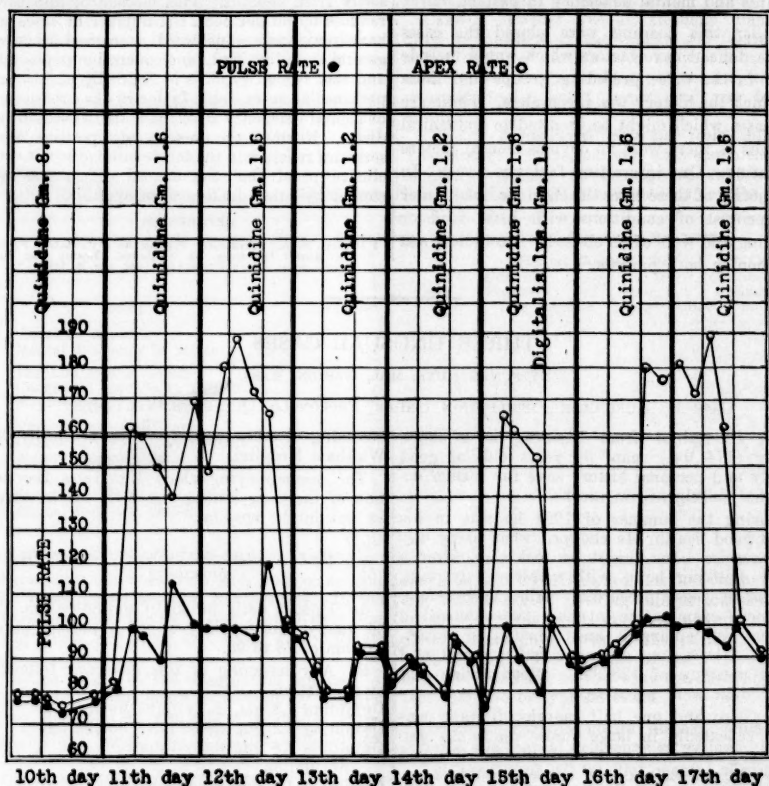
1. Upon a daily intake of quinidine gm. 1.6 he finally gained and retained a normal heart rhythm of 78 to 90.
2. Any lessening of this dose was followed by fibrillation.  
Quinidine .8 gm. daily gave fibrillation.  
Quinidine 1.2 gm. daily gave fibrillation.  
Quinidine .8 gm. daily+digitalis gm. 1 gave fibrillation.  
Quinidine 1.2 gm. daily+digitalis gave fibrillation.  
Quinidine 1.6 gm. daily gave normal rhythm.
3. He required at first a total of 4.4 gm. of quinidine before a normal heart rhythm resulted.
4. After the first 1.6 gm. of quinidine (i. e., 4 gm. t. i. d.) his heart rate suddenly dropped to 134, became regular, and the patient "felt fine." In spite of the fact that polygraph tracings failed to prove an auricular flutter, this condition (2:1 block) was suspected. The tracings failed because of the impossibility of obtaining a satisfactory venous curve from the neck. During this 134 rate, 1 gm. of digitalis

was given. Shortly afterwards the heart began again to fibrillate.

5. During the period of experimentation he steadily improved despite frequent returns of the arrhythmia. His edema, cough, angina, and orthopnea disappeared. He ate, slept, and felt well except for weakness.

6. He was kept on quinidine 1.6 gm. daily

the same town about the middle of December, 1924. Both were cases of herpes zoster followed by paralysis of all the muscles underlying the herpetic skin. Both patients suffered, for nearly a week, severe neuralgic pain, malaise, and slight temperature, before a profuse herpetic eruption appeared. About ten days afterwards the paralyzes gradually be-



for 72 days. At first dizziness, and later slight deafness bothered him. Both symptoms ceased of themselves, without the dosage being lessened.

7. Beginning about February 1, 1925, the dose was gradually reduced during the next three months to 1.2 gm. and 8 gm. In May it was made .4 and .2 gm. Finally all medication was stopped.

At present he leads a quiet life, takes short walks, and automobile rides. He feels as well as he did before the onset of the symptoms almost a year ago.

Cases II and III occurred three days apart in

came manifest, and increased to a marked degree pari passu with the subsidence of the herpetic lesions. In Case II the disease seemed a combination of an acute anterior and a posterior poliomyelitis.

The neurological reports of Dr. Edward W. Taylor, who saw both patients in consultation February 2nd, are quoted in full.

#### CASE II

Mr. M. was a man of 83 years temporarily crippled by a recent automobile accident and enfeebled from a diabetes mellitus of 13 years

standing. Moreover he had prostatic retention of urine and damaged kidneys.

Shortly before the onset of herpes zoster he broke away from his diabetic diet and speedily developed a prostrating acidosis which yielded to insulin. Since then he has kept to his diet. Twelve years ago he suffered three months from a diabetic neuritis following similar dietary indiscretion. Consequently when he began to have pain in his left arm and shoulder the same diagnosis was made. A week later, however, an herpetic eruption extended from the tip of the left shoulder to the fingers mostly along the extensor surfaces. The constant pain continued for three months so acutely that he refused all electrical or other treatments.

At present his entire left arm is totally paralyzed from the shoulder downward. Though it is still tender it no longer pains him. Dr. Taylor's report:

On physical examination, I found the pupils small, normal light reaction, normal accommodation, unrestricted fields and no nystagmus. His Rinné test of hearing was positive. His other cranial nerves showed nothing abnormal excepting the residue of an old peripheral left facial paralysis, giving rise to a narrowing of the palpable fissure. Tongue and throat were normal. Teeth were in very poor condition—mostly gone. His arm reflexes were essentially lacking on both sides. There was no ataxia. His blood pressure was normal—130 over 80, and his pulse regular. There was no sphincter disorder. His knee jerks were slight; Achilles not obtained; slight unsteadiness in the Romberg position; no paralysis of the legs. His gait was feeble and indicative of his years. He had no tremors; speech was normal. The essential difficulty lay in the left arm.

"When examined February 2, 1925, there were definite scars of an old herpetic eruption on that arm, chiefly on the radial aspect (musculospiral nerve), but some in the ulnar region. The arm was extremely weak but could be flexed fairly well at the elbow and there was some abduction in the shoulder; no movements at all at the wrist; the hand practically completely paralyzed—bony and edematous; joints stiff. X-ray of various joints has shown much calcareous deposit without great objective deformity. Electrical examination gave no faradic response to the muscles of the left forearm. With very strong galvanic current, there was a slight response, the cathode closing contraction being greater than the anode closing. Therefore, a partial reaction of degeneration was present."

### CASE III

Miss D., a vigorous woman of 44, previously in excellent health, suffered much pain for a

week before the herpes zoster appeared over the left temple, cheek, forehead and lip. Her step-mother, some six years previously, had a similar attack in the same area, leaving scars on her forehead but no paralysis.

Ten days after the eruption began Miss D. noticed that her face was becoming distorted, that her left eye closed with difficulty, that she drooled, and that she spoke thickly and slowly. With the onset of facial paralysis her pain began to subside. The affected areas were never so tender as in the case of Mr. M.

After seeing Dr. Taylor she reported regularly to him for treatment, and at present seems practically cured. At least no paralysis is noticeable unless by electrical tests.

Dr. Taylor's report:

"Previous history of herpes followed by left facial paralysis of the peripheral type. The physical examination showed a healthy woman, with normal pupils, normal hearing, cranial nerves in general free except for a palsy of the left seventh of the peripheral type. When examined, however, on February 13, 1925, she was able nearly to close her left eye; tongue was normal, throat normal, teeth in fair condition; arm reflexes normal; knee jerks and Achilles response normal, and in general no other objective disorder beyond the palsy of the left seventh nerve, together with very indefinite scars of the herpetic eruption. In the electrical examination on February 13th, there was a questionable, slight faradic response indirectly on stimulation of the nerve. There was no direct response to faradism, that is from the stimulation of the muscles themselves. There was very slight galvanic response from the nerve, with the cathode closing contraction equal to or possibly somewhat greater than the anode closing. The direct response was pronounced, with the cathode closing greater than the anode closing in most of the areas examined. The reaction, however, was with the characteristically slow contraction, excited rather more easily on the affected than on the normal side. There was, in other words, a partial reaction of degeneration.

"She was treated with considerable regularity about two months and a half by galvanism, usually the cathode as the active pole. During this period there was steady improvement, the gradual return of the capacity to close the eye completely, and finally, after perhaps six weeks of treatment, to move the corner of the mouth and other facial muscles in some degree. The reactions, however, remained essentially as at first, so far as their general character was concerned. The ultimate prognosis in this case is good for a very considerable recovery of the facial muscles. A complete restoration is, however, hardly to be expected."

THE USE OF SODIUM TETRAIODOPHENOLPHTHALEIN IN  
CHOLECYSTOGRAPHY.

## A Preliminary Report

BY ROY R. WHEELER, M.D., AND I. K. BOGAN, M.D.

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THE following groups of cases are presented to illustrate the varied result of the intravenous use of sodium tetraiodophenolphthalein to demonstrate gall bladder pathology by Roentgen ray. The series comprises 20 cases.

The technique is similar to that described by other workers. The product used was obtained from the Eastman Kodak Company; 2.5 gms. of the salt is made up to a 10 per cent. solution with distilled water, and solution is effected by the addition of 1.5 cc. of 10 per cent. sodium carbonate. It is filtered and autoclaved for 15 minutes, and injected intravenously by the familiar three-way stop cock apparatus, followed by 100 to 200 cc. of salt solution to wash out the vein. Frequent blood pressure determinations are made by an assistant. With the exception of one case of moderate anaphylactic shock, no reactions have occurred.

Our results fall into the following groups:

GROUP I. Cholelithiasis. Positive diagnoses by means of the dye.

A woman of 60 presented an atypical history of gall bladder attacks. In the past two years several unsuccessful attempts had been made to demonstrate gall bladder pathology by the usual methods. Following the injection, three cholesterol stones are easily seen in the dye-filled bladder. Into this group also fall those cases where the position and the quality of the shadow make us doubtful as to whether we are dealing with renal or cholecystic calculi or calcified lymph-nodes. Cholecystography appears to possess the advantage of being less painful than pyelography.

GROUP II. Sluggish emptying time.

A man of 40 with a classical history of gall bladder pain, at 5 hours showed a large, moderately dense gall bladder, regular in outline. At 8 hours the density had increased. At 24 the size and density had somewhat diminished. At 48 hours the size and density remained unchanged so that this film could not be distinguished from the one taken 24 hours earlier.

GROUP III. Failure of the dye to fill the gall bladder.

A woman of 51 was given the usual dose intravenously and no shadow whatever was seen

at 5, 8, 24 or 48 hours. We continued to take films with the idea that this case might represent one of delayed filling. Operation revealed a moderate degree of cholecystitis. The degree of cholecystitis was less than in other cases in which we obtained distinct shadows. No macroscopic evidence of pathology of the liver was found which would suggest failure on the part of the cells of the liver to secrete the dye. We have experienced this same failure to fill the gall bladder in several cases when the dye was taken orally, both when the pellets were apparently absorbed and in cases where they could be seen intact or partially dissolved in the colon. Since these cases have not been operated upon we have no knowledge as to whether there is pathology in the tract.

GROUP IV. Cholecystoptosis.

An interesting group of cases with atypical histories were found to have large, ptotic gall bladders. Is it possible that such a condition could cause sufficient traction on the common duct to produce symptoms? The operative results in these patients will be watched carefully.

GROUP V. Atypical or suggestive histories with negative findings.

A few cases in which a clinical diagnosis of gall bladder pathology had been made by good clinicians failed to show any abnormalities as we understand them. The operative findings frequently showed slight to a moderate amount of inflammation of the gall bladder wall, but no cases of stone.

## CONCLUSIONS

1. The use of sodium tetraiodophenolphthalein intravenously in cholecystography is apparently a harmless procedure.

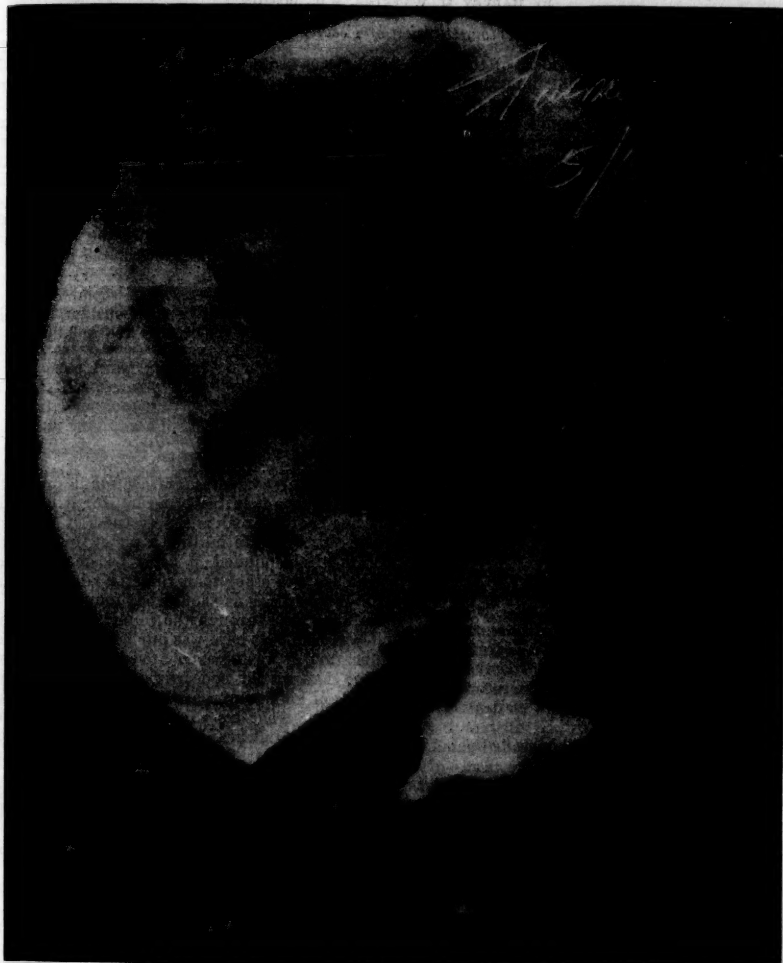
2. Calculi are usually demonstrated, and may be differentiated from renal calculi and calcified lymph-nodes.

3. The emptying time can be determined, and we believe that a delay is indicative of pathology.

4. The dye occasionally fails to fill the gall bladder, and this suggests disease in the tract, or obstruction of the duct.

5. We believe that it is possible that a large, low gall bladder can cause sufficient traction on the common duct to produce symptoms simulating gall bladder disease.





A dye-filled gall bladder containing cholesterol stones.

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## HOW ADEQUATELY CAN SOCIAL SERVICE SOLVE COMMUNITY CARE OF THE FEEBLEMINDED?

BY HARVEY M. WATKINS, M.D., BOSTON

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ONLY a few years ago our ideas of the feeble-minded were based on a small number of institutional defectives, never recognizing the larger percentage that was and would remain in the community. Accordingly we heard of the feeble-minded criminal, the feeble-minded pauper, the feeble-minded prostitute, etc., until one was led to believe that crime, unemployment and poverty were entirely due to feeble-mindedness. We were also led to believe that owing to the prolific reproduction of this species, the normal population would soon be engulfed by a generation of morons. The feeble-minded were looked upon as vicious, criminal, anti-social, and permanent institutional segregation appeared to be the only solution for this vast problem, which our greatest writer on this subject—the late Dr. Walter E. Fernald—termed the “legend of the feeble-minded.” He frequently compared our study of this subject to the protruding point of an iceberg, having never searched below the surface for the real facts:

Establishment of out patient departments together with the examination of school children three years or more retarded has revealed a mass of information from which we now know that feeble-mindedness is not an entity to be dealt with by a hard and fast rule but that it is a complex problem. The defective may be male or female—good or bad—young or old—from good or bad homes or environment—from highly hereditary stock or good stock. In other words, no two defectives are alike and therefore become individual problems and should be dealt with in an individual manner.

Any program for the feeble-minded should be based on an understanding of the needs of the defective at home, in the community, in industry, as well as in the institution for the feeble-minded. Into this program fits one of our greatest agencies—the social service department. Roughly speaking, from 1 to 2% of the entire population might be classified as being feeble-minded. Our program in Massachusetts is based on the assumption that we are dealing with sixty to seventy thousand defectives, yet of this number, less than four thousand are being cared for in institutions, so that over 90% are in the community.

Considering that we have between 60,000 and 70,000 defectives in the State, it constitutes numerically our greatest social problem, far greater than the insane, yet it is neither necessary nor desirable from the child's standpoint—nor financially possible or needed, from the State's, to institutionalize that number.

<sup>1</sup>Read at the New England Health Institute meeting, Portland, Me., May 4, 1925.

Massachusetts represents the first State in the Union to offer a complete program for the care of the feeble-minded. This program we think is a safe and sane one and has been copied, either in part or in toto, by almost every other State which has adopted policies for the care of the feeble-minded. This program stands as a fitting tribute to thirty-seven years of achievement of the late Dr. Walter E. Fernald who, in cooperation with the Commissioner of the Department of Mental Diseases, has brought the program to its present high level.

To show the relationship of social service to this program, we will briefly consider the chief factors involved. These are five in number, as follows:—

Identification.  
Registration.  
Education.  
Supervision.  
Segregation.

1. The first factor, *identification*, is one of the most important in the program, for it is by this means that we realize the vastness of the problem. In order to outline a policy for the care of the feeble-minded, it early became necessary that avenues other than those of admitted cases to the institutions should be found. Since all children pass through the public school system, it was seen that here was our best field for identification. It was necessary to secure more knowledge than we had concerning the location of the child; of his parents; of the environment he was found in; what his educational facilities were; what the facilities for extra academic work might be; what his moral and economic reactions and status were.

Accordingly, enabling legislation was passed in 1919, establishing state-wide clinics for the examination of school children three years or more retarded. The fundamental purpose of the law being, first, to discover those children of school age who were so retarded in mental development that they could derive but little benefit from the regular academic work of the school. Secondly, to provide a practical type of training and supervision which would enable them, so far as possible, to become safe and self-supporting members of society. In no way was this information or examination to be used as a detriment to the child.

To carry out the provisions of the law, the State has been divided into fourteen hospital districts, each served by a school clinic whose head is a psychiatrist who, in turn, is a member of a State hospital staff. In order that this extra school work might not embarrass the reg-

ular work of the State institutions, the Department of Mental Diseases obtained permission to add one extra physician for school clinic work to the staff of each State hospital. Assisting the psychiatrist is a psychiatric social worker, who is trained in psychiatry and in mental deficiency; a psychologist; a school nurse; a teacher; and, usually, a clerk. There is one standard of examination uniform throughout the State.

Final diagnosis and advice—being a medical province—are given by the psychiatrist, who is a physician. He evaluates the so-called ten point scale upon which diagnosis is made, namely,—

- Physical Examination.
- Family History.
- Personal and Developmental History.
- History of School Progress.
- Examination in School Work.
- Practical Knowledge.
- Economic Efficiency.
- Social History and Reactions.
- Moral Reactions.
- Mental Examination and Psychometric tests.

The greatest tact is necessary in establishing this contact with the family and with the child. Since the parents are primarily concerned with the problem, they have been very coöperative and appreciative of any suggestions we have made. This service is provided gratis by the Department of Mental Diseases upon application made to it by any school district within the State. In other words, this examination is not compulsory—we offer our help with the idea that if the advice given is of benefit, other towns and cities throughout the State will ask for it. The examination is not mandatory upon any school authority, but it is offered to every school district in the State—from the Berkshires to the Cape.

2. *Registration.* The names of children examined are forwarded to the Department of Mental Diseases, there to serve as a continuing register for the feeble-minded. This information is regarded as confidential—not to be used for general distribution in any way. It is, however, available to proper interested authorities.

Approximately 12,000 children have been examined in the public school system, which, with those seen in Out Patient Departments of institutions, plus those already in attendance at the schools for the feeble-minded, gives us an actual working census of about 20,000 names.

Part of the information obtained in the school clinic examination is given to the teacher, the school principal and to the parent. Interviews on the part of parents are encouraged so as to better enable them to care for the child in the home. This information is given to the local authorities in order that a local feeling of community responsibility may be instilled. To the teacher the child's capabilities are pointed out

and suggestions made as to how his training should proceed as it has been recognized that the feeble-minded child is entitled to an education in the same way as his normal brothers and sisters.

3. The education of the feeble-minded child takes place, first, in the public school system, by early recognizing his defect and his limitations, and an individual program is outlined for the child. The Department of Education, coöperating with the Department of Mental Diseases, establishes special classes within the school district if ten children are found to be three years or more retarded. In these special classes work is planned for these children not only along academic lines, but with special emphasis along manual and industrial lines, as in the future the greater percentage of these children will find employment in those things which they do with their hands—in other words, they will largely become "hewers of wood and drawers of water."

4. *Supervision* is provided in one of two ways, first—parole and supervision of feeble-minded from the schools, and secondly, under the new law passed in 1921 which gives the Department of Mental Diseases authority to supervise feeble-minded persons outside the institution and permits commitment of suitable cases directly to the department. For this class of supervision, it is necessary to select individual cases, as it is obvious that certain groups cannot be successfully supervised in the community. The defective delinquent requires institutional care. The child of too low grade mentality whose parents are unable to give him proper supervision in the home is also unsuitable, at the present, for supervision from a centralized bureau.

5. *Segregation*, the last point in our program. The defective boy or girl who shows evidences of anti-social tendencies should be early in life segregated from the good, docile feeble-minded person, and his training should be started early in an institution for the feeble-minded. In this way his chances for parole will be greatly increased if given intensive training during the formative years and under competent instructors. From the work of the school clinics we find that less than ten per cent will fall in this group that really requires institutional segregation.

*Where in this program does Social Service fit?* Social service is intimately connected with the identification of the feeble-minded. They procure the family history, the personal and developmental history, economic status, moral reactions, etc. The social worker frequently makes the first contact with the family, with the school and with the child.

As early as possible in beginning work with the feeble-minded, social supervision should be employed, since feeble-mindedness is a local community problem and it is well to early begin the use of those community agencies which come more intimately in contact with the problem.

After identification and diagnosis of feeble-

mindedness is made, the facts from the examination are made available to social agencies and interested parties.

Social service is frequently able to follow through the educational progress of the child, both in the home and in the school, and is of great benefit in making suggestions and explaining the situation to the family during the period of training. It is probably in the field of supervision that social service shows at its best. It was only a few years ago that we recognized the value of social service in the schools for the feeble-minded. The first suggestion we have of social service came about in studying those cases who failed to return to the schools at the end of their vacation period. Amongst this number were found certain morons who had become self-supporting and self-respecting citizens, holding positions and keeping out of trouble with the law and society, and make good. About this time, in the annual report of the Wrentham State School, Dr. Wallace wrote—"Boys and girls whose mental and moral defectiveness is not extreme, who have profited by a period of institutional education and care, who have, perhaps, been tided over a few critical years in their lives—these, we are reasonably hopeful—may do fairly well in the community, provided we carry institutional supervision to them in the form of a good visitor, while also having them report to the institution at certain periods. I believe this is one method whereby a school for feeble-minded can extend its work and bring a larger number of feeble-minded under supervision than can be maintained within the institution grounds."

From this beginning social service has gradually placed in the community more and more children. We now have in Massachusetts over 800 children under supervision of the three State schools for the feeble-minded, all of whom are adjusted economically, none of whom are earning less than four dollars per week and some receiving a maximum wage of \$40.00 per week. In one group there are 295 working boys. One of these boys has held the same job for 13 years. He has over two thousand dollars in bank and is thinking seriously of buying a farm. Exceptional cases throughout this group can be noted, one being the case of W. S., who has been working for the same person for the past 14 years. He is a steady moron who was admitted to the school at Waverley in 1897, at 10 years of age, and was discharged in 1911. Since 1911 he has accumulated, by the strictest economy and stick-to-itiveness, \$7,000 in bank books, stocks and bonds and actual cash. When he recently returned to the school on visit he displayed one thousand dollars worth of Tel. and Tel. stock. This is an exceptional case but it must be remembered that this boy was admitted at 10 years of age and given intensive training for fourteen years during the formative period of his life. He was always an industrious plodder, was taught the dignity of labor and later placed with an

understanding, reliable farmer who gave him proper advice as to his investments, enabling this boy to become economically independent.

Another exception that may be cited is that of a boy of low mental age making adjustment. Philip St. J. had a mental age of 6.4. He was paroled in 1920 and obtained a position doing pick-and-shovel work at \$20-\$30 per week. He was reported as regular in attendance to his duties, strong and muscular and paroled to the care of his family. The boy became such a valuable worker to his employer that he was kept on during the depression of 1920 and 1921. When his normal brothers, sister and father were out of employment, this boy continued to earn \$29.50 per week and carried the expenses of the family during the depression. This boy reports regularly to the school, is followed closely by social supervision and his parents control his funds. While the boy himself is unable to make change, he can compete favorably with the college professor in his line of work—the pick and shovel.

Children with a mental age of less than 8.6 are not, as a rule, ever self-directing. About the lowest mental age at which the defective child can be more or less self-directing is 9.6 to 10, and upward.

A number of the boys who were on parole were enlisted in the army and navy during the World War and, in passing, it may be noted that one of the boys so impressed himself upon the Veterans' Bureau that they gave him vocational training in a bank.

While these are outstanding exceptions, the main point to remember is that we have over 800 feeble-minded under this arrangement and that of all those selected by the school authorities as competent to be allowed on parole from the schools, less than 5% have failed to make suitable community adjustment.

In a group from one of the schools consisting of 289—104 males and 185 females, the average wage April 1, 1925, was—for males—\$15.00 per week and for females \$11.50 per week, or an average of \$12.90 for this group. 30 girls were doing domestic work in homes, under supervision, receiving maintenance and an average wage of \$4.92 per week. The entire group averages a minimum wage of \$9.00 per week for males and \$7.00 per week for females, and a maximum wage of \$25.00 per week for males and \$15.00 per week for females.

If 800 children of this type can be supervised in the community—children who have been admitted to the schools following social maladjustment at varying ages—how many more could be supervised had their defect been recognized early in life and intensive training given them according to their particular needs during the formative years.

Various kinds of employment are found for children in the community. Some of the boys are driving trucks; others are on farms; seven



are in hotels; three work for railroads; a number are painters; several are assistants to brick-layers or masons. There is scarcely a line of occupation requiring manual labor into which these boys have not fitted themselves. A great many of the children in the home are turning their money into the family and, in addition to being self-supporting, are helping to maintain the home. Bank books are encouraged, both from the standpoint of thrift and from the personal satisfaction of the child in displaying his or her bank balance to the visitor, which is required of all children earning wages while on parole.

In selecting patients to go into the community, care must be paid to various factors:

First, if the child is to go to the home of the parents, those parents must face the situation squarely. The child's limitations and possibilities must be definitely explained to them; they must be made intimately acquainted with the routine life which the child has led in the school.

Other factors, such as the child's mental age, character traits and personal habits, must be closely considered. Character and personal traits form larger factors frequently than does the mental age, as is often seen when a nine year mind succeeds where the eleven year mind fails.

Successful placement in the community is found for the mental age of 7 to 8 under direction of parents and social service, or for 9.6 to 10 without immediate direction of parents. These mental ages, combined with industry, pleasing personality and good control offer the most in supervision. Since those going into the community have been admitted at various periods of their life—frequently after having been misfits in society during childhood—they should receive training until they are able to submerge their untoward traits, acquire more social attributes and develop a new attitude. No exact chronological age can be given at which placement in the community can be made. It is safe, however, to say that no boy should be placed out until he is 21 or 22 and no girl before 25 or 30. It must ever be remembered that we are dealing with vacillating, weak, easily influenced and suggestible persons and while it is hard to teach the defective child, it is equally hard for him to forget what he has once acquired. The retiring or shy boy or girl needs more urging and friendliness to bring out the best that is in him. The greatest care must be used to find the more quiet walks of life—housework for the girls, farm work for the boys.

Sex, while a difficult gantlet for the normal child to run, is increasingly difficult for the feeble-minded, who is uneducated and unaided, yet held up to normal standards. It is the most serious problem in the supervision of girls, for while they may not voluntarily seek sex experience, they are attractive, therefore sought—they are passive, receptive and defective, therefore easily persuaded. As a rule, the feeble-minded boy shows his defect far more than the feeble-

minded girl. He is not sought after, he waits to be pursued but seldom is—hence, the boy is not the problem sexually that the girl becomes.

Other problems are to be considered when supervision is attempted. First, the person assuming responsibility of the child. Does he or she understand; has the situation been entirely explained to them? Will they play the game square with the child, with themselves and with the visitor? *Employment* must be graded according to the ability of the child. The kind of employment must be looked into—hours and wages closely scrutinized. *Entertainment* must be ample and must be supervised; the child himself must have an opportunity for entertainment on his or her level. *Religion*—will the child be given opportunity to attend church; can he or she go with the family? Can they always attend the church of their faith?

Will the person assuming responsibility become over-confident following a few weeks successful supervision and let up in the details of the plan, or will they follow out definite instructions? Since there are different standards of life for different types of individuals, the feeble-minded enjoy certain things that the normal may not. But if the feeble-minded person lives a clean, industrious, quiet and inoffensive life, he will probably come as near attaining his goal as could reasonably be expected.

From our experience we find that there are three main groups that offer more difficulty and less likelihood of social supervision,—first, the defective delinquent of either sex. Second, the sex problem girl, and, third, the boy with anti-social and criminalistic tendencies.

Under the new law previously referred to—the so-called community supervision law—a great many possibilities are offered. It places the defective child under supervision of a centralized authority early in that child's life, giving to the centralized authority complete supervision of the child during adolescence and adult life; it also leaves the right of transfer to a school for the feeble-minded at the discretion of the centralized bureau. This offers possibilities in bringing the defective child under supervision at an age earlier than heretofore and in a way forestalls the child's committing serious social difficulties during these years. It also allows a plan of supervision between the school age and the time in which the child reaches its majority—a period for which heretofore no care was provided. Since the person supervised under this law must realize that his life in the community is contingent upon his good behavior, there should be a marked tendency toward better conduct on his part. The bad behavior of the defective is oftentimes a compensation effort for his feeling of inferiority resulting from his repeated failures.

#### CONCLUSIONS

After the work of examining and identifying these children is done, the psychiatric social

worker becomes the greatest extra-institutional agent in carrying out advice and suggestions for the care of these pupils in the community. Psychiatric social service can and does adequately solve community care of the feeble-minded.

1. The social service worker should be one well trained in psychiatry and in mental medicine and willing to cooperate with interested parties of the school, of the community, with industrial establishments, with schools for the feeble-minded and in the general community life of the individual. The greatest of tact and patience is required to supervise these children.

2. The placement and supervision of 800 children from the schools for the feeble-minded has meant economy to the State, happiness to the child, gratification to the family, and has made room within the institutions for the training of other deserving defectives.

3. Institutionalization is wholly uncalled for in over 90% of the problem. Feeble-mindedness is primarily a local community problem. Early recognition and training of these defectives

along the lines in which their capabilities lie, together with a better understanding within the community of their abilities and defects, coupled with close supervision, either from a centralized bureau, or the schools for the feeble-minded, or other trained social agencies within the community, seems to be the best program so far evolved.

4. Supervision of a small number of feeble-minded has shown the possibilities of supervision for a larger number.

5. Feeble-mindedness is society's problem—not to be solved by one organization only—but by the cooperation of school, the family and the community at large. There must be definite cooperation and team work between all parties concerned, for while we guard the interests and rights of society, we must also guard the interests and rights of the backward child.

Life's successes consist not in the possession of a high intelligence quotient but in the orderly adjustment of low or medium intelligence.

## MEDICAL PROGRESS

### PROGRESS IN OBSTETRICS

BY ROBERT L. DE NORMANDIE, M.D.

#### AN IMPROVED PROPHYLACTIC METHOD OF TREATMENT OF ECLAMPSIA

STROGANOFF<sup>1</sup>, in a short paper read before the Section of Obstetrics and Gynecology, The Royal Society of Medicine, July, 1924, reviews the history of his method of treating eclampsia. Starting this method in 1897, he had no deaths in the first fifty-seven cases. In 1908 he reported 360 cases with a maternal mortality of 6.6% and a child mortality of 21.6%. Stroganoff records how this method has been tried in Dresden, Freilurg, Switzerland, Holland, Sweden and in Argentina. In 1918 he collected 2208 cases treated by this method with a total maternal mortality of 9.8%. In the last 253 cases in his two clinics only six deaths, 2.4%, occurred. Stroganoff claims as the result of this method: (1) the number of fits is markedly diminished; (2) there is a large number of "intercurrent" eclampsias—i. e., cases in which there is freedom from fits for twelve hours or more before delivery; (3) psychical disturbances are few in number and of a mild character; (4) the mortality of the babies is relatively favorable; (5) the treatment does not cause death as does a forced delivery; (6) diminution in the number of operative deliveries; (7) few cases of pneumonia; (8) rapid recovery of the patient.

Stroganoff went to London for a six weeks stay for the purpose of demonstrating his treatment, which he describes as follows:

1. Removal of all irritants: (a) All noise eliminated, (b) room darkened, (c) examina-

tions reduced to a minimum, (d) if possible, separate room and constant observation. Transfer to room under chloroform.

2. Administration of narcotics: beginning of treatment,  $\frac{1}{4}$  gr. morphia. One hour later, 30 gr. chloral hydrate by mouth or rectum. Three hours from beginning of treatment,  $\frac{1}{4}$  gr. morphia. Seven hours from beginning of treatment, 30 gr. chloral. Thirteen hours from beginning of treatment, 22 gr. chloral. Twenty-one hours from beginning of treatment, 22 gr. chloral. In severe eclampsias in strong individuals the dosage is increased to  $\frac{1}{3}$  gr. morphia and to 38 gr. chloral; in mild forms it is diminished. If the patient is conscious chloral is given by mouth; if unconscious, by rectum. During the first two intervals Stroganoff says he frequently administers chloroform 10-20 minims in the presence of prodromata of a fit. On the second day undelivered patients are given 15-20 gr. of chloral three times a day. In the absence of fits during fourteen hours the dose of chloral may be diminished.

3. If a fit recurs two or three times, or even once in a severe form, in spite of the above medication, venesection is done, 400 c.c. of blood is withdrawn. Stroganoff does not advise this if delivery is to be expected in two or three hours.

4. As soon as the patient can be delivered without harm to herself and child, delivery is accomplished.

5. Maintenance of regular functions of chief organs. (a) Kidneys and skin: patient kept warm by hot water bottles; hot tea diluted with milk should be given; unconscious patients are given milk and salt solution of equal parts, 1000 c.c. per day by rectum. (b) Lungs: oxygen is given after a fit—pure warm air with careful cleansing of the mouth and nose of mucus, blood and vomitus. (c) Heart: stimulants as needed—digitalis, camphor, caffeine. Stroganoff states that in very severe cases as much as 135 gr. of chloral and 3/5 gr. of morphia are given in fourteen hours.

#### TREATMENT OF ECLAMPSIA BY THE STROGANOFF METHOD

It is interesting to read Stander's paper on the treatment of eclampsia by the Stroganoff method. Stander went to Leningrad for the purpose of investigating Stroganoff's method. He was given every opportunity to study the cases thus treated from 1897-1924, and his paper is the result of this study. The outline of the treatment is, of course, in Stander's paper the same as in Stroganoff's paper.

Stander's paper is a more complete analysis of the cases treated by Stroganoff. Apparently Stander was so impressed by the treatment and the results obtained that it is his opinion that it becomes today the duty of all conscientious obstetricians to bear these results in mind and consider whether or not they can not learn something from this method. Stander discussed this treatment in various other obstetrical clinics of Europe, and from this discussion it is very clear that there is still a great deal of confusion regarding the proper technique. Stander says that of Stroganoff's cases about 70% had no convulsions before admittance to the clinic, and developed the condition only after admittance, and of these, 50% had only one convulsion. It is Stander's opinion that not all these cases had true eclampsia; some were certainly nephritic toxemias with convulsions. Consequently, it is evident that Stroganoff deals with more mild cases of eclampsia. Two-thirds of Stroganoff's maternal mortality occurs in patients who had four or more convulsions before admission to the clinic, and when the figures are taken for only those cases which had convulsions before admission, Stander finds that the mortality was 9.3% for the period 1916-1924. He feels that the Stroganoff method has not been given a fair trial outside of Russia, and he believes even after this criticism that there is a great deal of value in the method.

As a result of his study of the Stroganoff method, Stander has modified the treatment of eclampsia at the Johns Hopkins Hospital in several respects. Stander does not believe in the use of chloroform, nor venesection to the amount of not more than 400 c.c., holding that either venesection should not be employed at all, or if it is used at least 750 to 1000 c.c. should be with-

drawn. Stander states that at the Johns Hopkins clinic progressive improvement has followed the replacement of radical by conservative methods in the treatment of eclampsia,—so much so that the mortality has been reduced by one-half.

Stander's chief changes in Stroganoff's methods are: that catheterization and examination should be carried out under nitrous oxide anesthesia; he states that no chloroform should be used; that venesection is done only to obtain a blood specimen for research work and that intravenous administration of 5% glucose solution may be used if the patient can not drink on account of coma or lack of desire.

#### A PRELIMINARY REPORT ON THE INTRAVENOUS USE OF MAGNESIUM SULPHATE IN PUERPERAL ECLAMPSIA

Lazard<sup>2</sup> makes a preliminary report on the use of magnesium sulphate in eclampsia as developed in the Los Angeles General Hospital. He reports on seventeen cases of eclampsia, of the ante-, intra-, and postpartum types. His treatment is as follows: 20 c.c. of a 10% solution of magnesium sulphate is given as soon after the first convulsion as possible. Eliminative measures, such as phlebotomy, stomach lavage, administration of castor oil, colonic flushings with glucose and soda are carried out as in the treatment of any toxemic condition.

Lazard reports fully the seventeen cases in which this treatment has been carried out. Eleven of these cases were antepartum, one intrapartum and five postpartum. The majority of these cases had practically no antepartum treatment. Ten of the patients had no further convulsions after the first injection; four had one convulsion after the first injection; one had two convulsions after the first injection and two after the second injection; one had four after the first, four after the second and one after the third, this patient having had seventeen known convulsions before they were controlled. Of the amount of magnesium sulphate used, three patients had but one intravenous injection of 20 c.c., 25 c.c., and 20 c.c. respectively; eight had injections of amounts from 15 to 25 c.c. of a 10% solution; one had two injections of 2 c.c. of a 50% solution and five had three injections of from 10 to 20 c.c. of 10% solution. Of the eleven babies which were delivered after treatment was instituted, there were five living, one full term stillborn and five premature stillborn. It is noteworthy to see the change that took place in Lazard's treatment, for the first few cases were given other treatment such as phlebotomy, saline infusion, venesection and colonic flushings, while in the later cases very little other treatment aside from the magnesium sulphate was given.

Lazard concluded that: (1) by the intravenous use of magnesium sulphate the convulsions of eclampsia can be controlled and the coma cleared

by a sufficient dosage; (2) the intravenous use of magnesium sulphate reduces oedema and promotes diuresis, thus eliminating the toxins; (3) other eliminative measures may be used as adjuvants, but as our confidence in the magnesium sulphate has increased we have gradually reduced this supplementary treatment; (4) surgical interference with the pregnancy should not be undertaken during the eclamptic attack, except for the most urgent obstetric indication.

#### THE WEIGHT FACTOR IN PREGNANCY

Randall<sup>1</sup> has studied the weight records of two hundred non-selected primigravidae with normal pregnancies. He says that the average gain of these patients from the onset of pregnancy to delivery was 23.2 pounds, of which 7.75 were added in the last eight weeks. One hundred multiparas showed an average gain of 21 pounds, of which 5 pounds were added in the last eight weeks. Randall states that the increase in weight in normal pregnancy runs between 20 and 30 pounds. The weight curve usually shows a slight loss or only a slight gain in the first three months, but thereafter a small steady gain to near term. Some obstetricians, however, note a terminal loss in weight as full term approaches.

Of the histories studied there were twelve cases of toxemic patients whose weight records were complete enough for comparison with the normal. Of these twelve patients all but one were in their first pregnancy and the average increase in weight of these patients was 44.5 pounds. The significant fact in this gain is that an average of 25.4 pounds were gained during the last eight weeks, which is a marked contrast to the weight curve of normal cases. Randall feels that a careful weight record may be an index of approaching trouble, and in some cases the keeping of weight within normal limits by diet has warded off toxemia. He states, however, that every woman with an excessive gain in weight is not to be considered as predisposed to eclampsia, but additional precautions must be taken. Randall feels that the weight of every patient should be watched in conjunction with a careful urinalysis and blood pressure readings.

#### ETIOLOGY AND PROGNOSIS OF PUERPERAL INSANITY

Bourne<sup>2</sup> analyzes sixty cases of puerperal insanity in an attempt to define the obstetric relationship in both the causes and prognosis of this condition. In studying the causes of this condition full accounts of the antecedent conditions of the patient have not been obtained, but it is clear that the physical puerperal diseases have played a large part as exciting causes. How far they have been only exciting causes is impossible to say, but Bourne feels that the physical diseases have been a sufficient factor in many cases, even in the absence of any tendency towards insanity. In some of the patients, men-

tal instability is followed by a mental breakdown at puberty, but in many cases no obvious cause could be traced. The question of illegitimacy is an important one. The chief organic disease associated with insanity is one of the many forms of puerperal sepsis. The character of the labor appears to have no significance. Primigravidae form a large proportion of the cases. Bourne feels that puerperal organic diseases, particularly sepsis and eclampsia, are capable of provoking insanity in patients who have not hitherto shown, either in themselves or their families, any evidence of mental weakness.

Of his cases studied, four developed insanity during the latter part of pregnancy, six became insane during labor, and the majority showed the symptoms during the first week after delivery. In the great majority of cases the manner of onset was similar. Nights were sleepless, then the patient began to be regarded as peculiar and slightly incoherent of talk, and from then on she quickly developed a more obvious symptom, such as an aversion for food and her baby, and delusions of being poisoned. Most of the cases were maniacal within three days. A few became depressed or morbidly religious.

Bourne feels that the prognosis in puerperal insanity depends upon the severity of the organic disease. The majority of the patients who survive recover their mental health, although it is probable that many of these patients will become insane again some time if they should be subjected to another stress such as pregnancy and labor.

#### INSULIN AND GLUCOSE TREATMENT OF EXCESSIVE VOMITING OF PREGNANCY

Thalheimer<sup>3</sup> reports two additional cases of severe nausea and vomiting of pregnancy treated by insulin and glucose. His treatment consists of giving intravenously very slowly, taking from four to five hours, 1000 c.c. of a 10% glucose solution, or if severely dehydrated, 2000 c.c. of a 5% solution, and one unit of insulin for every three grams of glucose. For one hundred grams of glucose thirty units of insulin are given in divided doses, twenty units one hour after beginning the intravenous infusion of the glucose and ten units after the second hour.

Thalheimer says this amount of insulin has not caused insulin shock and had eliminated ketonuria in from six to eight hours. Thalheimer states that for the time being this treatment should be reserved for the extremely sick and in hospitals only, for they require incessant watching during the treatment. He reports that some patients may fall asleep while the glucose is being given. Some who claim to have retained little or nothing for days will ask for nourishment while receiving the glucose. Some of the patients require but one injection, while others may need several. The number of injections is guided by clinical judgment controlled by examinations of the patient's blood and urine.



# CHANGES IN THE POLARITY OF THE FETUS

Mellroy and Leverkus<sup>7</sup> studied the frequency of the occurrence of spontaneous version of the fetus in the uterus and its influence upon the prognosis and treatment of obstetrical cases. They state that because of the increased amount of antenatal care it became obvious that pelvic presentations occur much more frequently during the later weeks of pregnancy than has generally been supposed. They review the theories as to the cause and persistence of pelvic presentations, but have come to no definite conclusions as to the causes which influence them. Deformities of the fetus, length and weight of the fetus, and length of the umbilical cord are of little value as determining factors in spontaneous version or in the prevention of version. Excessive liquor may be a factor. Pelvic deliveries frequently occur because of premature onset of labor. Deformities of the pelvis are not a marked factor. They state that while pelvic presentations can in some cases be assigned to specific causes, no reason can be ascribed to the vast majority. From their study they feel that in most cases nature may be trusted to do a spontaneous version, but if, however, a spontaneous version is deferred beyond the thirty-sixth week, they feel that it is usually wise to resort to a version.

## CERVICAL CAESAREAN SECTION

DeLee<sup>8</sup> reports 330 cervical Caesarean sections done at the Chicago Lying-in Hospital with two maternal deaths. This record, as he justly says, should arrest the attention of all obstetricians and surgeons. DeLee himself did 154 of these; seven others, residents and outside men, did the rest. Forty per cent of the cases ran a more or less febrile course, which DeLee explains as due to the frequent brief post-operative reaction and to the type of labor to which many of the patients had been subjected.

DeLee claims the following points of superiority of the low operation over the classical Caesarean section:

1. A decidedly lower mortality.
2. A decidedly lower primary morbidity.
3. A greater guarantee against rupture of the uterus in subsequent pregnancy and labor.
4. A greater guarantee against intraperitoneal adhesions.
5. Much less likelihood of utero-abdominal fistula and fewer hernias.
6. The extension of the indication for abdominal delivery to cases of neglected labor even when infection is suspected.
7. The possibility of giving the parturient a real test of labor.
8. A broadening of the indications for abdominal delivery for the purpose of saving the life of the child.

Even with the possible broadening of the indications, DeLee sounds a word of warning

against widespread, indiscriminate performance of this operation.

DeLee's paper is illustrated by twelve drawings, and those interested in the technique should carefully study them. The technique is as follows: A low midline incision from the pubis down is made, the fascia incised just to the left of the linea alba, the rectus is drawn to one side and the peritoneum opened behind the rectus. The bladder is found high on the abdominal wall and pushed down and to the right. Retractors expose the lower uterine segment and a cross incision is made in the peritoneum about 2 cm. below its firm attachment to the uterus. The lower flap of the peritoneum is reflected downwards, carrying with it the bladder. The upper flap is pushed upward as is necessary. The line of incision is then held steady and a hook knife is passed into the uterus, passed down to the lower limit of the uterine incision, and then drawn through the uterus. The blood and liquor are sucked out by a vacuum pump. The face of the baby is then brought by a finger in the mouth into the wound and the head extracted by forceps. The placenta is removed either manually or by traction on the cord.

A narrow gauze strip is placed in the uterus and led to the vagina, to be removed five to eight hours later. The uterus is then sewed up by two layers of continuous sutures. Another layer of sutures closes the fascia of the lower uterine segment. The upper flap of the peritoneum is pulled down and then stitched in place and the lower flap then pulled up and sewed over with a continuous suture.

In a second paper<sup>13</sup> DeLee advocates the performance of this operation under local anaesthesia, and reports 67 cases done by five operators with no deaths. He concludes his second paper by saying that:

1. Local anaesthesia is not only possible but should be the method of choice for all Caesareans including the cervical.
2. The dangers of acidosis and pneumonia are avoided.
3. The post-operative recovery is smoother and quicker.
4. We are permitted through this added safety to extend the indications for abdominal deliveries in border line cases.
5. In heart, respiratory, kidney and liver cases it is particularly valuable, indeed almost indispensable.

## THE TREATMENT OF ABORTION

Tuttle<sup>9</sup> presents a study of 1,164 cases treated at the Ancon Hospital in the last twenty years. He states that it is the policy at the hospital to empty the uterus by operative procedure in all cases of abortion when membranes and placental tissue remain in the uterus. This treatment is in marked contrast to the conservatism advised by Hillis, reviewed last year. Of these 1,164 cases studied, approximately only a

half were in the first three months. Tuttle gives various interesting charts showing the cause and etiology of these abortions, and also studied the most frequent symptoms, which were pain and hemorrhage. The other tables comprise all of the febrile cases operated upon, the types of operations done and the number of deaths which followed. The total number of deaths was 15, giving a mortality rate of 1.28. Therapeutic abortion was done in 35 cases and of these, 5 died.

He concludes that abortion of any type is a serious condition and operative treatment should never be considered lightly. Unless proper hospital facilities and operative technique are available, the condition had better be treated expectantly. Hemorrhage sufficiently severe to call for immediate active treatment is seen in approximately 5% of all cases. The records of the Ancon Hospital show that febrile abortion cases operated upon promptly have slightly higher average number of post-operative febrile days and fewer average hospital days than those operated upon a number of days after the temperature has remained normal. Tuttle believes that in ordinary incomplete abortion the sooner the uterus is emptied the shorter will be the convalescence. Many cases will be discharged from the hospital at the end of five days.

The treatment of septic abortion requires mature judgment. Those cases where infection has extended beyond the uterus and without evidence of retained necrotic placenta or membranes should be treated expectantly. Tuttle believes that when such tissue remains in the uterus it is just as essential to remove it as to remove a sloughing appendix in the abdomen, provided the removal can be accomplished without spreading the infection. He finally concludes that surgical treatment is difficult to standardize and no one method will apply equally to all cases.

#### NONENGAGEMENT OF VERTEX IN PRIMIPARAS AT ONSET OF LABOR

Cary and Casagrande<sup>10</sup> review 610 cases of primiparous labors in the obstetric service at the Brooklyn Hospital and show that: (1) failure of vertex engagement can not be accepted as an indication of disproportion without other direct confirmatory evidence; (2) persistence of nonengagement after a few hours of labor does not constitute such confirmatory evidence nor is the so-called "test of labor" significant as demonstrating the feasibility of vaginal delivery; (3) nonengagement *per se* should not be interpreted as indicating unusual difficulties in accomplishing vaginal delivery. This study was undertaken because the authors noted again and again that no greater difficulty was experienced in delivering this class of patients than when descent of the head had occurred prior to labor. They feel that nonengagement

in the primipara means simply that: (1) the ability of the fetal head to pass the inlet was not yet demonstrated; (2) because disproportion might be the cause, early competent review of the patient should be carried out; (3) disproportion was much the least frequent of the many causes of delaying engagement.

Among the causes of nonengagement the writers feel that any condition that increases resistance or diminishes the lateral and downward pressure on the uterus may delay or prevent nonengagement of the head until the expulsive muscular efforts of the second stage of labor occur. They feel that certain types of the modern maternity corsets are a factor. Another class of primipara in which engagement does not occur is the patient with an ample pelvis, broad, roomy abdomen and flaccid abdominal muscles. The effect of hydramnion is, the writers feel, generally understood and not difficult to explain. It is those primiparous patients with a slight increase of liquor, a floating head with a large amount of forewaters protruding through a cervix about one-half dilated, a large baby and scant pelvis, who give worry. The writers admit that these cases are most troublesome, but the writers state that if the physician convinces himself by careful examination, if necessary with the patient under anaesthesia, that no marked contraction of the inlet is present, the membranes should be ruptured even though dilatation progresses and the patient goes on to successful delivery. The writers feel that a posterior position is probably the most frequent cause of nonengagement and calls for keen study and good obstetric judgment. They also feel that even in difficult cases a vaginal delivery should be elected, for they feel that the patient is entitled to the test of one delivery. This paper is a plea for careful, individual study in each case, with a desire to obviate unnecessary Caesarean sections.

#### KJELLAND FORCEPS

For the past two or more years various articles have appeared in regard to the new forceps as evolved by Kjelland, a Norwegian obstetrician. There were various opinions in regard to it, some very laudatory, others showing absolutely no enthusiasm for it.

An article by Seadron<sup>11</sup> gives good pictures of the forceps and of the technique of application. The points of difference between the usual forceps and the Kjelland are these: the pelvic curve is very much less than in the ordinary forceps and the concavity of the pelvic curve is practically on a line with the handles of the blades. The lock on the Kjelland forceps is entirely different, being a sliding one which permits more readily the accommodation of the blades to the fetal head. The shank is longer and the surfaces of the blades are more rounded than in the ordinary forceps. In a

short review of these forceps it is difficult to give the technique of application without reproducing models or photographs, and the reader is referred to this article of Seadron's to study the technique employed. Seadron, in concluding his article, states that some of the advantages of the Kjelland over the ordinary forceps are: (1) they are easy to apply in spite of the position of the head and the direction of the sagittal suture. No special experience in technique is required (this last statement the writer can scarcely agree with, for the technique of application is entirely different from that in the use of the ordinary forceps); (2) the position of the head is not altered by the application; (3) it is necessary to introduce only two fingers instead of the whole hand into the vagina, as is sometimes necessary when the head is high; (4) by the biparietal application the forceps do not slip; (5) better rotation is obtained because the forceps can be applied in one position; (6) this application aids the normal mechanism in terminating labor; (7) less force is required.

Seadron further adds that "while these forceps have many advantages over the old, the range of indication should be no wider for them than for the ordinary blades."

#### RESPONSIBILITY OF THE MEDICAL PROFESSION IN FURTHER REDUCING MATERNAL MORTALITY

Flint<sup>12</sup> declares the responsibility of the medical profession in further reducing maternal mortality rests chiefly upon those who practice obstetrics as a specialty, but more especially upon those who teach obstetrics.

Better education of the undergraduate student, he says, is the most important single factor which will improve maternal mortality. As soon as operative deliveries are taken out of the hands of the incompetent and sent to maternity hospitals, maternal mortality will be reduced. Flint states that the great mass of maternity work is in the hands of men who are not expert, and of midwives. He says something should be done to turn the tide of obstetric operations performed so frequently by these men. Flint says it is estimated that 25,000 women die from childbirth annually in the United States. The actual maternal mortality reported from the registered area is 16,000, and this comprises but four-fifths of the total area. Of this total 6,000 to 8,000 die from infection, 5,000 from eclampsia and 4,000 from hemorrhages, all capable of great reduction. Flint asks the question—why is the care of pregnancy and labor left so much to the young and incompetent or even to the ignorant midwife?

Flint writes specifically about infection, eclampsia and hemorrhage. He believes that infection occurs most frequently in private practice and in general hospitals with a mater-

nity service, and least frequently in special hospitals. Reduction of infections should follow the establishment of more special hospitals and can be controlled in private practice by the universal use of an aseptic technique.

Eclampsia, he states, is preventable, and improvement in this is due directly to the establishment of prenatal clinics. If in private practice the methods of these clinics were adopted, still further reduction in the number of deaths from eclampsia would follow.

In hemorrhages, the third most frequent cause of death in childbirth, all precautions must be taken as a routine for its prevention.

Less operation and more conservatism is the outstanding remedy for the present high mortality. Education of the medical student, education of the mass of medical men not now expert, education of the public to demand better expert care with a willingness to pay for it, the establishment of more hospitals devoted exclusively to maternity cases, with great conservatism and more thorough asepsis in private practice, will go far towards accomplishing this desirable result.

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#### MLLE. IRENE CURIE

MADemoiselle IRENE CURIE, daughter of Madam Curie, who has for years been interested in and an essential part of the laboratory of her mother, recently received her doctor of science degree by producing a thesis based on original scientific research. The subject with which she has interested herself for some time and which won for her the doctor's degree in the Sorbonne was a *Research on the Alpha Rays of Polonium: Oscillations of the Trajectory Initial Velocity and Ionizing Effect*. It appears that the daughter intends to continue the work of Madam Curie.—*Journal of Radiology*.

Case Records  
of the  
Massachusetts General Hospital

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN  
WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY

RICHARD C. CABOT, M.D., AND HUGH CABOT, M.D.  
F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 11411

MEDICAL DEPARTMENT

A five-year-old girl entered August 6. The history was obtained from an aunt who had had charge of her for a week. The family history was good. The child was normal at birth, but had "sinking spells" for two weeks after birth. At three years she was ill for a week with pneumonia, and nine months later for three weeks with a second attack. After the second attack she tired easily and was short of breath. At four years she had chickenpox. For the past two years she had had frequent sore throats.

Examination showed a fairly well developed and nourished child, slightly pale, very bright and responsive. The teeth showed two cavities. The tonsils were enlarged and reddened, the throat red. There was a bulging of the chest to the left and at the lower third of the sternum. The lungs showed a few crackles at both bases. The heart was greatly enlarged to the left (see Figure 1). The apex impulse

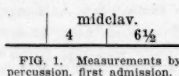


FIG. 1. Measurements by percussion, first admission.

was felt in the axillary line in the fifth space. The rate was rapid, the sounds of good quality, the rhythm regular. All over the precordia there was heard a loud sharp crescendo systolic murmur. There was also a marked third sound. The pulmonic second sound was greatly accentuated. The aortic second was not heard over the aortic area. At the apex was a roughened low-pitched diastolic murmur. Electrocardiogram showed normal rhythm, rate 110, high P<sub>2</sub>. The liver was felt 7 cm. below the costal margin in the nipple line. There was slight clubbing of the fingers. The axillary and inguinal glands were slightly enlarged.

The temperature was 96.5° to 100°; subnormal at the end of her stay. The pulse was 101° to 125°, the respiration 24 to 40. The amount of urine is not recorded. The specific gravity was 1.020 to 1.026. The findings were negative. The hemoglobin was 100 per cent., the leucocytes 10,600, the polymorphs 68 per cent. X-ray showed marked increase in the size of the heart shadow, extending nearly to

the periphery in the left chest (see Figure 2). There was increase in the supracardiac areas.

The child showed marked improvement under rest in bed and aspirin gr. iii t.i.d. A

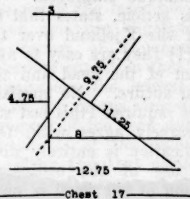


FIG. 2. Measurements by X-ray, first admission.

throat consultant thought tonsillectomy and adenoidectomy advisable but hesitated to operate on account of the general condition. August 17 she was discharged, having gained a pound and two ounces.

After leaving the hospital she did well. Visits at the Out-Patient Department in September and November after her discharge showed the heart in about the same condition. She was given an appointment to return for removal of tonsils and adenoids in January. Between November and January she had several colds. Her rest periods were not always well regulated. Until January 14 she did well. Then she developed a head cold followed by pain in the chest. Examination showed the findings as before except for the cough and cold with râles.

January 21 she reentered the wards. She was now well developed and nourished, flushed, with acetone breath, rapid respiration, and frequent coughing. The throat was reddened, the tonsils markedly enlarged and injected. The chest was of the rachitic pigeon-breast variety. The left chest bulged more than the right, but the expansion on both sides was equal. The percussion measurements of the heart are shown in Figure 3. The apex beat was seen and felt in the sixth space 9 1/2 cm. to the left, with systolic retraction at the apex. On auscultation there was a loud blowing systolic murmur at the apex, transmitted to the axilla and sternum.

There was a diastolic rumbling sound at the apex in the sixth space. The pulmonic second sound was accentuated. A respiratory thrill was felt in both front and back of the left chest in the cardiac region. The aortic second sound—tricuspid—was not heard. The blood pressure was 90/58. A few coarse râles were heard on expiration throughout both chests.

The temperature was 97.6° to 104.9° by rectum, the pulse 100 to 161, the respiration 29 to

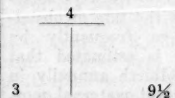


FIG. 3. Measurements by percussion, second admission.



73. The urine showed the slightest possible trace of albumin at three of four examinations, four to seven leucocytes at two, specific gravity 1.025 to 1.020. The amount is not recorded. The hemoglobin was 100 per cent., the leucocytes 26,500 to 15,200, polynuclears 77 per cent. A Wassermann was negative. An intradermal tuberculin test was negative, 1:500 and 1:1000. X-ray showed marked enlargement of the cardiac shadow in all directions. Examination by fluoroscope showed visible pulsation throughout. There was a round prominence in the region of the left auricle and the pulmonary artery. The right side of the heart was well rounded. Films made in the upright and vertical positions showed apparent increase in the width of the supracardiac shadow in the horizontal position, suggesting fluid. The rounding out of the heart shadow however was thought against this.

January 23 the child breathed with difficulty and both lungs were full of coarse rumbling and squeaking râles. The apex impulse was noted as being very diffuse over the chest wall. The left apex and axilla were dull to percussion and the breath sounds were distant. The râles heard over this area were also distant. February 4 the lungs showed no dullness except a slight suggestion in the upper right chest over an area about two cm. in diameter. February 14 the temperature was down. February 16 there were musical crackling râles throughout the right lung front and back, diminished breath sounds throughout the left lung with a few distant râles, dullness in the left axilla, anteriorly and posteriorly, extending around to the left back, with diminished tactile and vocal fremitus. The heart sounds were of fair quality at the apex but somewhat diminished at the base and over the right border. The murmurs were unchanged. The cardiohepatic angle tended to be obliterated. The respiration was a little slower. The visiting physician thought there was no great change. February 27 there was distinct change in the breathing over the left lung. It was now harsh, especially just medial to the left scapula. There was some dullness in the left axilla, due perhaps to enlarged heart. The night of February 28 the child complained of pains in the joints and over the precordia. She grew more orthopneic, dyspneic and restless and March 2 died.

#### DISCUSSION

BY DR. RICHARD C. CABOT

#### NOTES ON THE HISTORY

As the aunt had had charge of this little girl for only a week it may well be that the history is incomplete. The two attacks of so-called pneumonia may in fact have been tuberculosis or heart disease. We must bear these possibilities in mind as we go on with the case.

The frequent sore throats have a possible bearing as factors sometimes leading to valvular heart trouble.

#### NOTES ON THE PHYSICAL EXAMINATION

The bulging of the chest is probably of no importance. Such deformities are apt to be the result of early rickets and not to be connected with disease of the heart or lungs.

The examination of the heart shows very marked hypertrophy and dilatation. The murmur is probably presystolic. A "crescendo systolic" murmur must be very rare. I do not remember having heard one. The probability of there being a crescendo presystolic murmur of mitral stenosis is increased by the presence of a third heart sound and an accentuated pulmonic second, as well as by the presence of the low-pitched diastolic murmur mentioned later in the examination. The only unusual thing is the normal rhythm.

The clubbed fingers show that the trouble has been probably going on for some years.

Usually we take such a temperature as evidence of acute endocarditis superposed upon chronic valvular disease. But I do not think there is enough temperature to constitute evidence favoring this, especially in the absence of leucocytosis, chills, purpura, and other signs of embolism. Nevertheless in any heart trouble occurring in the fifth year of life acute endocarditis is probable whatever signs there may be present or absent.

The fact that this child recovered at the time of her first stay in the hospital does not rule out the possibility of acute endocarditis, as in children we certainly see recoveries from this condition.

At the time of her second entry, which is about six months after the first one, there is more evidence of passive congestion. At this time the previous hint of a rachitic chest deformity is confirmed.

In the examination of the heart we note at this second entry a retraction of the chest tissues during each systole. This may be associated with an adherent pericardium, but is often seen without that and due probably to the negative pressure produced within the chest by the contraction of the hypertrophied heart. The murmurs are still most like those of mitral stenosis, though there is a possibility of an aortic lesion as well, which I shall discuss later.

What is meant by a respiratory thrill I have no idea,—possibly a palpable râle, possibly a pleural friction.

At this second entry the temperature rises higher, and together with the high leucocyte count more strongly suggests acute endocarditis.

The second X-ray picture shows the shape of the heart often seen in mitral stenosis. Apparently the radiologist was doubtful regard-

ing the possibility of pericardial effusion as well.

What are we to say of the percussion dullness detected at the apex of the left lung and in the left axilla? As in the previous records the lung sounds are recorded as distant over this area, I do not know how to interpret the findings. We can hardly suppose encapsulated fluid there, and the sounds are not like pneumonia. The rest of the lung signs seem those of passive congestion and hydrothorax.

The observation about the cardiohepatic angle dates from a time when we thought that if the angle was obliterated or made obtuse pericardial effusion was present. Now that we know that in true pericardial effusion the angle is more acute than ever we pay less attention to it.

The terminal pains suggest acute general infection (streptococcus?) and perhaps pericarditis.

#### DIFFERENTIAL DIAGNOSIS

There seems abundant evidence that we are dealing with a case of heart trouble probably of the rheumatic type, possibly streptococic. There is reason to suppose that the commonest of all rheumatic lesions, mitral stenosis, is present, whatever else may be superadded. At the same time since pericarditis is common at this child's age and since there are signs and symptoms not at all inconsistent with it, we must remember that its presence can simulate the signs of almost any valvular disease and particularly of mitral stenosis. A source of error must therefore be admitted here.

The heart is obviously enlarged, probably both hypertrophied and dilated. If mitral stenosis is the only or the dominant lesion the left ventricle should show no hypertrophy, but the right side of the heart and the left auricle should show enlargement.

There is no good evidence of an aortic lesion or of pericarditis, though as the evidence for that lesion is never good its absence means little.

Is acute endocarditis present? Yes, I think so, because of the joint pains, the fever and leucocytosis in the terminal attack.

Acute pericarditis is possible, not improbable; but as we are expecting to find an acute endocarditis and as the two lesions do not often go together I shall vote against acute pericarditis. There may well be old pericardial adhesions. I incline to think there will be.

If there is mitral stenosis, as I expect, an auricular thrombus and infarcts in the spleen and kidneys are probable.

The lungs should show hydrothorax and passive congestion, as should the other organs. There may be a terminal bronchopneumonia, but I vote against it because we can account for all the facts without it.

#### X-RAY INTERPRETATION

The findings are those of markedly dilated heart, probably mitral disease.

#### CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Rheumatic heart disease with mitral involvement.

Adhesive pericarditis.

Acute respiratory infection.

#### DR. RICHARD C. CABOT'S DIAGNOSIS

Rheumatic heart disease.

Chronic mitral endocarditis with stenosis.

Hypertrophy and dilatation of the heart.

Possibly chronic pericarditis.

Probably acute mitral (and perhaps aortic) endocarditis.

Possibly auricular thrombus and infarcts of kidneys and spleen.

Hydrothorax and passive congestion of the lungs.

General passive congestion.

Old rachitic deformities.

#### ANATOMICAL DIAGNOSIS

##### 1. Primary fatal lesion

Chronic endocarditis of the mitral valve.

##### 2. Secondary or terminal lesions

Hypertrophy and dilatation of the heart.

Chronic passive congestion.

Pneumonitis.

Slight ascites and hydropericardium.

Acute glomerulo-nephritis.

##### 3. Historical landmarks

Chronic pleuritis.

DR. RICHARDSON: The head was not examined.

The peritoneal cavity contained 200 c.c. of thin pale fluid. The peritoneum showed scattered over it many minute hemorrhagic areas well marked in the region of the root of the mesentery.

The esophagus presented a small traction diverticulum but was otherwise negative. The gastro-intestinal tract showed some reddening of the mucosa but nothing else.

The anterior margin of the liver was 8 cm. below the costal border in the right mammillary line. The diaphragm was at the fifth interspace on the right, the sixth rib on the left.

On each side there were a few old pleural adhesions. The trachea and bronchi contained much pale frothy fluid. There was a small portion of the thymus gland still present, negative.

The lungs showed chronic passive congestion with some associated pneumonitis.

The pericardium contained about 100 c.c. of thin pale fluid, slight hydropericardium. The heart weighed 221 grams, considerably en-

larged. The myocardium was negative. Cavities: Left, considerable dilatation. Right, moderate dilatation of the ventricle with much dilatation of the auricle. The mitral valve showed frank chronic endocarditis. The other valves were negative. The coronaries were negative. The circulatory apparatus generally was negative.

The liver showed some central degeneration and chronic passive congestion.

The spleen showed chronic passive congestion.

The kidneys combined weighed 135 grams. The capsules stripped leaving smooth pale brown red surfaces. The tissue was plump, pale brown red, with slight increase of consistence and rather wet. The glomeruli presented as fine points. The cortex measured 5 mm. The microscopic examination showed acute glomerulo-nephritis.

The culture from the heart blood yielded no growth.

#### EPICRISIS

DR. CABOT: The acute nephritis is quite unexpected, but we have long since learned that we cannot recognize this lesion in most cases. The chronic (?) pneumonitis probably dates from the old pneumonia, which organized instead of resolving. But perhaps the pathologist means acute pneumonia?

DR. RICHARDSON: The condition seems to be one of chronic passive congestion with some acute inflammatory change, but not a frank pneumonia.

#### CASE 11412

##### MEDICAL DEPARTMENT

An American street car conductor of fifty-three entered March 23 complaining of general weakness. His father died with possible tuberculosis. The patient had questionable typhoid fever at thirty-five. For twenty-eight years his bowels had been constipated.

In October a year and a half before admission he began gradually to grow yellow and weak. Six weeks after the onset he fainted on his car, wounding his forehead. He stopped work for three weeks and was treated at the Out-Patient Department of a Boston hospital. After two weeks the yellow color disappeared and he grew much stronger. In January, after very severe constipation, the yellow color and weakness recurred and he began to have nausea almost daily three or four hours after eating, relieved by food. He had very rare vomiting, headache, dizziness, palpitation, throbbing in the right ear and slight dyspnea on exertion. He urinated twice at night.

He was a slightly developed, fairly well nourished man with pale lemon yellow skin and very slightly yellow conjunctivae. The mucous

membranes and throat were very pale. There was prominence of venules of the face and of a few on the front of the chest at the diaphragmatic attachment and over the thighs and legs. The veins of the neck were distended. The heart showed no enlargement to percussion. The sounds and action were normal. The pulmonary second sound was accentuated. There was a short harsh systolic murmur in the third space to the left of the sternum and a soft systolic murmur best heard at the apex. The carotids were bounding. The pulses were of fair volume and tension, not bounding or Corrigan. The arteries were palpable, fibrous, not sclerosed. There was considerable lateral excursion of the brachials. The lungs were normal. The abdomen showed dullness in the right flank and a firm hard mass in the epigastrium, apparently the liver. The liver dullness extended from the sixth rib to half an inch below the costal margin in the right nipple line, where the edge was palpable. The spleen was not felt. There was very slight soft edema of the lower legs. The pupils and knee-jerks were normal.

The evening of entrance the temperature rose to 100°; otherwise the chart was not remarkable until March 27, after which date the temperature was 101.1° to 104.5°, the pulse 98 to 135, the respiration 20 to 42. The amount of urine is not recorded. There was a very slight trace of albumin at one of three examinations. The specific gravity was 1.009 to 1.020. A bile test was slightly positive twice. The hemoglobin was 35 to 30 per cent., the leucocytes 5,500 to 2,200, the polynuclears 57 to 42 per cent., the reds 1,500,000 to 1,114,000, variation in size and shape not extreme, macrocytosis, stippling and polychromatophilia marked. At a stomach examination no fasting contents were recovered. The wash water was clear. No contents were recovered an hour and five minutes after a test meal; the wash water was again clear. The fundus of the left eye showed one small hemorrhage near the optic nerve. The right fundus was normal.

No cause was found for the sudden rise in temperature March 27. There was no elevation in the leucocyte count. March 28 vomitus gave a positive bile test and guaiac. There was dullness in the right chest behind and a rather harsh friction rub. Next day there was a small patch of bronchial breathing below the angle of the scapula. March 30 the whole right lower lobe was solid. The leucocyte count was at its lowest. The lungs filled with râles. That afternoon the patient died.

#### DISCUSSION

BY DR. MAURICE FREMONT-SMITH

A chief complaint of general weakness always suggests first the possibility of pernicious anemia. The question arises as to whether the

patient really looked yellow or whether he was simply pale and weak. If yellow, we have to assume either difficulty in eliminating bile pigments from the blood stream, i. e., disease of the liver cells or obstruction to the finer bile ducts or the common duct; or increased blood destruction with resulting increase in the amount of bile salts in the blood, as in pernicious anemia or hemolytic jaundice. Whether the severe constipation has any relation to the increase in jaundice, if it be jaundice, it is hard to say. It is conceivable that constipation might favor infection of the region of the ampulla and common duct, and so-called infectious jaundice may possibly have some relation to interference with normal peristalsis. Infectious jaundice, however, rarely recurs after it has begun to subside. The man is moreover too sick and the history of the present illness far too long to consider infectious jaundice. The headache, dizziness, palpitation, throbbing in the ear, and dyspnea might all be the result of a marked anemia. The vomiting does not fit into this picture and must be explained on some other ground.

Physical examination shows definite evidence of jaundice and of anemia. The cardiac murmurs are those of anemia. The bounding carotids can be explained on a low blood volume. The enlarged liver focuses attention again upon this organ. The spleen is palpable in over fifty per cent. of all cases of pernicious anemia. Its absence is therefore an argument, although not a conclusive one, against this diagnosis. We must consider the possibility of carcinoma with metastasis to the liver. In such case, however, jaundice if once present should have persisted and increased. Moreover, after a year and a half the patient should not be described as "fairly nourished." We have no note as to loss of weight, which would be of importance in making this diagnosis.

With jaundice present the chances are all in favor of the mass in the abdomen being the liver. One must not forget, however, that any abdominal tumor felt in the flank, or even giving dullness in the flank, may be an enlarged kidney, the result of hypernephroma or carcinoma. The edema of the lower legs we can best again explain by the anemia. The patient evidently developed pneumonia in the hospital. The gravity of the urine rules out chronic nephritis. The positive test for bile in the urine is in favor of an obstructive jaundice rather than one of hemolytic origin, although in the crises of hemolytic jaundice bile does occur in the urine. The blood picture is consistent with pernicious anemia rather than with an anemia secondary to carcinoma. It must be remembered, however, that a blood picture very similar to that seen in pernicious anemia, even to a slight increase in the general size of the red cells, may rarely occur in carcinoma of the stomach. The white count is usually high-

er and the color index lower. Why have we no mention of platelets, which are so important in making this differentiation? It is a pity that a specimen of the fasting gastric contents could not be obtained. Free hydrochloric acid, if present, would have gone far to throw doubt upon a diagnosis of pernicious anemia. As between carcinoma of the stomach and pernicious anemia, however, the stomach contents help us little except as there may be evidence of blood and stasis in the former.

The small hemorrhage in the fundus of the left eye in the absence of high blood pressure (by the way, why have we no blood pressure recorded?\*) and in the absence of albumin in the urine is probably due to some essential blood disease. It is entirely consistent with pernicious anemia. As for the fever, a slight temperature up to 100° or 101° is frequent in pernicious anemia, but it is unusual for it to go up very much higher. The positive bile test in the vomitus is against complete obstruction of the common duct.

The patch of pneumonia became evident March 28 and the low leucocyte count, either because of poor defense reaction to the infection or because of inability of the bone marrow to produce an increase in the leucocytic output or to enable these cells to leave the bone marrow and enter the blood stream, heralds an unfavorable outcome.

#### CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Pernicious anemia.  
Lobar pneumonia.

#### DR. MAURICE FREMONT-SMITH'S DIAGNOSIS

Pernicious anemia.  
Lobar pneumonia.

#### ANATOMICAL DIAGNOSIS

##### 1. Primary fatal lesions

Pernicious anemia.  
Hyperplasia of the bone marrow.

##### 2. Secondary or terminal lesions

Septicemia, pneumococcus.  
Lobar pneumonia, right lung.  
Slight arteriosclerosis.  
Slight hypertrophy and dilatation of the heart.  
Slight icterus.  
Acute degeneration of the kidneys.  
Edema piae.

##### 3. Historical landmarks

Chronic perisplenitis.  
Teratoma of the epididymis.

DR. RICHARDSON: Head. The pia was moderately infiltrated with thin clear pale fluid.

\*This case was seen before the recording of blood platelets and the taking of blood pressures were done as matters of routine.



The brain weighed 1453 grams, on section negative.

Trunk. The skin and mucous membranes were pale and the skin generally presented a faint dusky yellowish tinge. There was subcutaneous fat in small amount and lemon yellow. The peritoneal fat was lemon yellow.

The right pleural cavity contained a slight amount of cloudy fluid and fibrin. The left cavity was negative. The right visceral pleura was weakly stuck to the parietal pleura in places by fibrinous material. The left pleura was negative.

Trachea and bronchi. The mucosa was rather pale except that in the right bronchus and its branches it showed some reddening and the tubes contained much mucopurulent material. The left bronchus contained much thin reddish frothy fluid.

Right lung. The lower and middle lobes were voluminous, solid, and the section surfaces were those of typical lobar pneumonia. The tissue of the upper lobe presented no areas of consolidation and yielded much thin dark reddish frothy fluid.

Left lung. The tissue generally was spongy and yielded much thin reddish frothy fluid.

The aorta showed a slight amount of arteriosclerosis.

The liver weighed 2450 grams. The organ was large. The tissue a little pale but otherwise negative.

The spleen weighed 183 grams. The organ was bound to the diaphragm by a few fibrous adhesions. The tissue was negative.

The kidneys combined weighed 320 grams. The tissue showed some edema and cloudy swelling but otherwise was not remarkable.

In the epididymis on the left side was a small ovoid mass about 1.5 cm. in greatest dimension. Microscopic examination showed this to be a small teratoma of the epididymis.

Gastro-intestinal tract. The mucosa was pale and in the region of the stomach and intestines rather flat. The walls were rather thin and pale.

The bone marrow of the right femur filled out the marrow cavity and was plump to soft, dark reddish and like that commonly observed in pernicious anemia.

The cultures from the heart blood yielded numerous colonies of pneumococci, as did the one from the right lung.

A case then of pernicious anemia associated with lobar pneumonia and a pneumococcus septicemia.

years' duration, more severe and with jaundice since the previous December. He was a well balanced man whose statements seemed reliable. He had been a seaman all his life and had travelled everywhere. He had had scarlet fever, the diseases of childhood, a chancre at sixteen, and gonorrhea at twenty. Since his youth he had been a fairly steady drinker. For thirty years he had been a little deaf. At fifty-four he had attacks of vertigo with fainting twice. At fifty-nine his seaman's license was revoked because of color blindness and astigmatism. He continued however to do active outdoor work such as fishing and life guard patrol, and although for twelve years he had been considerably crippled by joint pains he still had a high type of physique. Three years before admission he took seven packages of Weldon tablets, which put his stomach in bad condition. At present he had ataxia (?). Several years before admission he had itching piles.

For thirty years or more he had had recurrent attacks of moderate gnawing to sharp epigastric pain half an hour after meals lasting two or three hours, always accompanied by gas, sometimes by vomiting at the onset, relieved by soda and rhubarb mixture. These attacks came in series with remissions, sometimes for a year. With the attacks he never had jaundice or clay colored stools. At the age of fifty he was treated in a hospital for a week and improved on a milk diet. Until the December before admission he had been free from symptoms for six months. In December he began having very severe attacks of cramp-like pain in the same region, accompanied by jaundice and much nausea, relieved only by morphia. He had had eight such attacks, the last a week before admission. They began with slight pain in the mid lower abdomen, increasing in severity until it doubled him up. Soda, which always relieved the earlier attacks, gave no relief. The attacks were not related to meals, occurred particularly just before he went to bed, and had waked him out of a sound sleep. The vomiting when it occurred usually did so fifteen to twenty minutes after eating. There was sometimes coffee-ground vomitus. Sometimes the stools were gray. Ever since he had been jaundiced his urine had been almost constantly dark. During the attacks his bowels were generally constipated. Since the beginning of his illness he had been a little short of breath. Since December he had lost about ten pounds. Two months before admission he weighed 160 or 170, his usual weight.

Examination showed a jaundiced man with evident loss of weight. The skin was dry. The heart was not enlarged. The sounds were flabby and weak. No murmurs were made out. The blood pressure was 150/65. The artery walls were palpable, the temporals and brachials tortuous. The liver was palpable and tender. The dullness extended 5 cm. below the costal

# CASE 11413

## SURGICAL DEPARTMENT

A New England seaman of seventy-one entered the hospital April 1 complaining of pain in the pit of the stomach of thirty or forty

margin. There was considerable costovertebral tenderness on the right. There was possibly a little free fluid in the abdomen. The epigastrium and left upper quadrant were tender. There was spasm of the rectus. Extending from the liver on the right to the splenic area was a mass descending on inspiration. In the left flank palpation from laterally toward the midline showed the edge of a mass descending on inspiration almost to the level of the umbilicus. This could not be properly outlined and investigated because of tenderness. There was high tympany over the left upper quadrant. On the penis behind the corona was an area of discoloration. Rectal examination showed an enlarged right lobe of the prostate, smooth, hard, not tender. The left leg was larger than the right. There was considerable enlargement of the heads of both tibiae. Heberden's nodes were prominent on the hands and fingers. The pupils showed a bilateral irregularity suggesting a congenital defect. They were equal and reacted to light and distance. The fundi showed vitreous opacities, more marked on the right. The right knee-jerk was obtained, but not the left. The ankle-jerks and plantar reflexes were absent. There was slight swaying in Romberg.

The chart is not remarkable. The urine was negative. The renal function was forty-five per cent. The blood was normal. A Wassermann was negative. The stools gave a positive guaiac at one of four examinations. Lumbar puncture gave clear colorless fluid showing positive alcohol, ammonium sulphate negative, 3 cells, hydrodynamics normal, Wassermann negative, total protein 50, goldsol 0000000000. The coagulation time was 6 to 15 minutes. The clot retraction was normal at two to four hours. X-ray showed no evidence of disease of the stomach or duodenum, or of gall-stones. Another examination of the gall-bladder fifteen hours after the oral administration of tetraiodophenolphthalein showed a very faint elongated shadow in the region of the gall-bladder, thought perhaps to represent the outline of the gall-bladder. It contained practically no dye. Films made at eighteen hours showed no shadows to be interpreted as the gall-bladder.

The patient contracted an upper respiratory infection in the hospital and was therefore discharged April 15, to return later for operation.

The slight cough cleared up in a week. At midnight April 18 the patient had another severe attack of pain which kept him awake until a physician gave him two injections in the morning. May 9 he had another night attack relieved by morphia. After both attacks he had anorexia for a day or two and jaundice, light stools and dark urine for several days. Between the attacks he felt very well, with only a vague stomach discomfort at times after meals. In the last attack his stools were quite

light, but at the time of his readmission, May 15, were beginning to show a little color.

On examination his general nutrition was somewhat improved, but his skin was more deeply jaundiced than before. There was no abdominal pain or tenderness. Another Wassermann was negative.

May 16 operation was done. He made a good ether recovery. May 18 however he began to vomit. During the next four days the temperature rose to 102.6°, the pulse to 140, the respiratory rate to 52. The leucocyte count was 19,200. May 22 he died.

#### DISCUSSION

BY DR. EDWARD L. YOUNG, JR.

The story up to the description of his stomach trouble does not seem to lead us anywhere. We can only wait and see whether later we can look back and fit any of the things into the story.

The description of his indigestion is rather suggestive of peptic ulcer. The attacks were definite, coming on at a regular time after meals, occasionally accompanied by vomiting and relieved by soda. The attacks came intermittently, and he was improved by rest and a milk diet. That seems to me to be a pretty good story of peptic ulcer. But for about five months we have an increase in the symptoms and also the addition of jaundice, which he has not had before. These attacks were apparently pretty severe, as they required morphia. The attacks which he has had since December he states are very different from those which have bothered him previously, and the description of them with the addition of the jaundice and the change in the color of the stools suggests biliary colic. Of course it is possible that a long continued ulcer can so tie up the gastro-hepatic omentum from adhesions that there is some obstruction to the common duct. Although the pain has been intermittent we have evidence that the jaundice has never entirely ceased, because he speaks of continuous dark urine, presumably due to the presence of bile. If this condition is malignancy it is of course likewise easily explainable on the basis of the extension of the malignancy of the stomach to the liver and biliary tract. If his thirty years of indigestion has been due to a duodenal ulcer we do not expect that there is any malignant change in it, as that is practically unknown.

The fact that the liver was slightly enlarged and tender is what we should expect with trouble anywhere in the biliary tract, as there is always a hepatitis as well as a cholecystitis present. The costovertebral tenderness on the right is probably due to the same thing, as it is very difficult to tell the difference between a tender liver and a tender kidney on the right.

Where there is no doubt about free fluid in the abdomen it is better not to draw any con-

clusions, because a lot of fluid can be present without giving signs which are definite enough to prove it, and on the other hand apparent shifting dullness may be present, and even a fluid wave, without any free fluid.

The mass which is described is very indefinite, but certainly suggests something in the stomach, though an enlarged liver might fill the bill. It is pretty extensive for it to be a localized carcinoma, and if it is gastric would suggest the so-called leather-bottle stomach rather than a single mass.

The description of the prostate does not seem to point toward anything more than an old inflammatory process.

The X-ray examination seems to throw out the question of trouble in the stomach or duodenum, and that leaves only some trouble in the biliary tract to explain the symptoms.

I do not think we need anything better than cholecystitis with stones as a diagnosis. That of course could be the cause of indigestion, although it is generally not so suggestive of stomach trouble as this was. It can explain the attacks which have occurred since December. It can explain the enlarged liver and the mass which was felt in the epigastrium. Of course it is possible that there is malignancy of the papilla or of the head of the pancreas causing obstruction, but in that case we should not have expected the attacks of pain, neither could it have been the cause of the thirty years of indigestion. I think we are logically forced back to the diagnosis of cholecystitis and cholelithiasis.

The interval history is more suggestive of gall-stone attacks than anything that we have received before. I think the only thing that we have a right to put down is cholecystitis and cholelithiasis with stones in the common duct.

#### X-RAY INTERPRETATION

The apparent delay in filling and concentration of the dye is suggestive of cholecystic disease.

#### DR. YOUNG'S PRE-OPERATIVE DIAGNOSIS

Cholecystitis.  
Cholelithiasis.

#### PRE-OPERATIVE DIAGNOSIS

Cholelithiasis.

#### OPERATION

Gas-ether. Right rectus muscle splitting incision. A small contracted gall-bladder filled with gall-stones was found, and two stones were felt in a large dilated common duct. The gall-bladder was dissected off the liver and used as a guide to the common duct, which was incised. Two good-sized stones were removed. Nothing else was felt in the common duct. A probe entered the duodenum without difficulty. A

catheter was sewed into the common duct and the incision immediately closed. A gauze strand was placed to the oozing surface of the liver and a cigarette drain.

#### PATHOLOGICAL REPORT

A small gall-bladder with a smooth mucous surface. There are many small stones.

Microscopic examination shows the mucous membrane eroded. The walls are thickened by fibrosis and wandering cells.

Chronic cholecystitis and cholelithiasis.

#### FURTHER DISCUSSION

Our logic is apparently justified by the findings at operation. There is no reason on the chances to think that this man will not get well.

Six days after operation the patient got considerably worse and died. We are not given any symptoms to help tell us what was present, but from our experience with these cases I think general peritonitis can be put down as a very strong possibility. Whether there is any sepsis above the diaphragm we have no evidence on which to say. From what these cases have shown I should be interested to know whether there was some small stone left in the common or hepatic ducts, as that is a very common finding at necropsy.

#### CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Cholecystitis.  
Cholelithiasis.  
Operation, cholecystectomy and drainage of common duct.

#### DR. EDWARD L. YOUNG'S DIAGNOSIS

Cholecystitis.  
Cholelithiasis.  
General peritonitis.

#### ANATOMICAL DIAGNOSIS

1. *Primary fatal lesions*  
(Cholecystitis. Cholelithiasis.)
2. *Secondary or terminal lesions*  
Operation wound, cholecystectomy and drainage of common duct.  
Purulent peritonitis.  
Dilatation of bile ducts.  
Slight biliary cirrhosis of the liver.  
Icterus.  
Hemorrhagic edema of the lungs.  
Slight arteriosclerosis.  
Soft spleen.
3. *Historical landmarks*  
Slight chronic pleuritis, right.

DR. RICHARDSON: The head was not examined.  
The skin and conjunctivae showed a marked

yellowish discoloration. In the abdominal wall there was an operation wound closed with sutures except the central portion, which was open for a length of 4.5 cm. The abdomen was not distended, the wall soft. There was subcutaneous fat in small amount. The muscles were pale and soft.

The peritoneal cavity contained about 200 c.c. of purulent fluid material. The peritoneum in the region of the right flank and over the surface of the liver was coated with exudate.

The small intestine showed much distension and contained much grayish white opaque semifluid material. The mucosa was negative. The large intestine contained much soft brownish gray fecal material. The mucosa was negative.

The pleural cavities contained a small amount of thin brownish red fluid. There were a few pleural adhesions on the right. The trachea and bronchi contained much brownish red frothy fluid.

The lungs showed considerable hemorrhagic edema.

The heart was of good size. The myocardium, valves, cavities and coronary arteries were negative. The aorta and great branches showed a slight amount of arteriosclerosis.

The liver was of fair size. The surface was coated with exudate. The tissue was of good consistence, possibly a little leathery and bile stained. Microscopically it showed a slight amount of biliary cirrhosis.

The cystic duct was tied off. The hepatic and common ducts were dilated, 2 cm. in circumference. The common duct tapered down to about the usual size to the papilla. There was a surgical opening in the region of the common duct. The mucosa of the ducts was negative. No stones were found. The pancreas and duct of Wirsung were negative.

The spleen was soft.

## THE WORLD'S CHILDREN

### MOTHERS' PENSIONS, MICHIGAN

Fifty per cent more mothers in Michigan received allowances for the support of their children during 1925 than during 1915, the first year of the mothers' pension system in the State, according to the State welfare commission. The number of widows, deserted wives, unmarried mothers, and others who were aided during 1924 was 1,853 and the number of children affected was 5,383. The total amount paid out was \$1,741,656; the average expenditure per child per week was \$2.14.

### BOYS' AND GIRLS' CAMPS, N. H.

New Hampshire now requires that all camps for boys and girls in the State shall be licensed

by the State board of health. A license is granted only if the camp is kept in a sanitary state and has a safe water supply.

### HOUSEHOLD NURSES, BOSTON

Boston, through a "Household Nurses Association," prepares women to go into homes as household nurses and gives them a diploma when they have completed a year's course of training and 6 months' experience on the Association-registry. The course includes instruction in hospital nursing under supervision, in cooking, serving and planning meals, marketing, and the care of well children.

### PROTECTION OF WORKING MOTHERS, CHILE

Recent legislation in Chile provides that every working mother must have a rest period of 40 days before and 20 days after childbirth, her position being held for her during this period. That factories, shops, etc., must provide nurseries for the care of the babies of working mothers, and that mothers must have free periods during the day to nurse their babies.

### SUNLIGHT AND HEALTH, ENGLAND

Studies by physicians and scientists in England reported at the Congress of the Royal Institute of Public Health, held at Brighton in May, indicate that sunlight, "either natural or artificial, when properly administered, may have a definitely beneficial effect on mental activity." It was found that children handicapped in school work by illness, when cured with the aid of sunlight, caught up with or outdistanced their classmates.

### CHILD MARRIAGE, INDIA

Statistics given by a writer in the *Times of India*, published in Bombay, show the extent of child marriage in India. The figures are from the 1921 census report for the Bombay Presidency. They show that in 1921 there were in Bombay, in round numbers, 49,000 married girls under the age of 5 years, of whom more than 2,000 were widows; 261,000 between the ages of 5 and 10 years, 13,000 of whom were widows; 643,000 between the ages of 10 and 15, of whom 34,000 were widows. The infant death rate in Bombay in 1924 was 411 per thousand live births, compared with the United States rate (1923) of 77.—*Weekly Notes on Child Welfare Topics Compiled by the U. S. Children's Bureau.*

### TEACHING

DR. JOSEPH F. MONTAGUE of the Rectal Clinic, University and Bellevue Hospital Medical College has announced a post graduate course in Rectal Diseases which will be given by motion picture films demonstrating in detail every phase of treatment. About 55,000 feet of film are required in the presentation of the complete course of lectures.



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## THE ATTITUDE OF THE STATE TOWARD ITS SERVANTS

THE recent death of Dr. Eugene R. Kelley, Commissioner of Health, reported to have been brought about by the wearing anxiety of a warm-hearted nature in his disappointment over the niggardly salaries paid his associates is an object lesson and calls for serious consideration. Dr. Kelley had repeatedly spoken of this matter in conference with the writer. It was evident that the situation was one of great perplexity.

We can understand the behavior of small minds endeavoring to make a shrewd trade but the indisposition of a State to pay adequate salaries to expert servants has always been incomprehensible. The physicians in the employ of the State are as a class serving on a ridiculously low salary basis. We have been unable to understand the willingness of the District Health Officers, for example, to serve under the meagre salaries provided. Their duties are arduous and call for personal and professional qualities of a high order and yet they receive little, if any, more than many mechanics. This applies also to other positions held by physicians.

Perhaps the profession is partly blameworthy. If there should be a demonstration of opinion that the State should be fair to its ex-

pert servants something might be accomplished. The individual physician would have little influence. The profession could lay the facts before the authorities to advantage.

Dr. Kelley's death may lead to the correction of inequalities of salaries. It is, however, too bad that public conscience must be quickened by such a sacrifice.

## AUTOMOBILE ACCIDENTS IN THE UNITED STATES

WHILE it is certainly true that civilization signifies progress, it must be borne in mind that it brings in its train also, many conditions which lead to ill health and conditions which tend to augment the number of violent deaths and disabilities by accident which are absent from life under a more primitive state of affairs. Although too, it is idle and futile to gird and cavil at a mode of life which is foreign to the older members of the community, it is, at any rate, the act of wisdom to endeavor to improve existing conditions as far as is possible and to adapt ourselves to changed circumstances in order that public and personal health are not too greatly prejudiced adversely thereby. It is now the chronic diseases some, if not most of which, are fostered and aggravated by the habits of present day civilization that must be fought.

But this is a matter of common knowledge and everywhere efforts are being put forth to attain this object. One of the most pressing problems of the day, which face authorities and municipal authorities, especially, is that of proper and effective control of motor traffic. The death and disability rate from automobile accidents has reached a stage at which it has become a national menace. Figures inform us that the death rate from automobile accidents in this country in 1922 was 12.5 per 100,000 population. In England and Wales the death rate from similar causes in 1921 was 4.0 per 100,000 population, the rate for the same period in the United States being 11.5. Although of course, there are fewer automobiles by far in Great Britain, on the other hand, the streets of British cities are less well adapted for this method of locomotion than those of cities on this side of the Atlantic. As a rule, the British streets are more narrow and not so straight. Moreover, the character of the traffic is somewhat different, the heavy traffic is not restricted to particular streets as here and the volume of traffic in London, at least, is probably greater than in New York, or rather, it may be said the streets are more congested. However, fatal accidents and disabilities due to automobiles and other forms of motor traffic are increasing almost by leaps and bounds in London and other centres of population in Great Britain and present together with congestion of traffic

perhaps as urgent a problem as any in that country.

But fatal accidents and injuries are greatly more frequent in American cities and it is the concern of this editorial to discuss briefly certain features of the automobile situation at home. It may be remarked that the figures quoted above are conservative. If all accidents were considered as well as fatalities the automobile injury rate for 1922 would be in the neighborhood of 130 per 100,000 population. In other respects, the federal figures do not represent the full measure of the fatalities and injuries resulting from the widespread use of the automobile. Even taking into consideration the official estimates only, the automobile toll of the streets is appalling. And it must not be forgotten that the use of the automobile is continually on the increase. The most pitiful aspect of the matter is the high proportion of deaths among children owing to automobiles. In 1922, it is stated that 29.4 per cent. of the total number of deaths were of children, under fifteen years of age. In fact, almost 4,000 children under fifteen years met a violent and untimely end by the agency of automobiles. This is indeed a massacre of the innocent. It has been pointed out that automobile accidents constitute greater risks to young children than any one of such diseases as smallpox, scarlet fever, dysentery, measles, influenza, poliomyelitis, heart disease and so on. It has been also suggested that where, as in New York, the health departments are invested with a considerable amount of police power, they should exercise this power to save life and limb from the omnipresent automobile in the same way as they exercise it in preventing and curbing the development of infectious diseases. Also, the automobile itself is responsible for the aggravation of certain conditions of ill health. They have been the means for a great increase of obesity. Individuals walk much less than formerly. In addition, to automobiles is largely due the great increase of nervous affections. Walking in a city and crossing the streets at the present time place much strain on the nervous system and in those of nervous temperament is apt to bring out inherent defective qualities in this direction. The outstanding problem in relation to the automobile is, its menace to the life and limbs of those on foot and to young children in particular. All are agreed that steps should be taken to safeguard the lives of the walking population, but it is difficult to decide what these steps should be. On the whole, the police control the traffic as well as can be expected. Careless or inexperienced drivers are responsible for many accidents and the same may be said of pedestrians. The truth is that the remedy required is a radical one. The streets of cities were not made for motor traffic solely and they are badly adapted for it. A thorough method of reconstruction of streets

and roads is probably the only sure way by which the automobile may be robbed of its dangers. This is going on to some extent, as in the elimination of grade crossings.

To effect this change at once is, perhaps, an unreasonable demand, although it might be well worth the immense cost. In any event, it is a question so serious and urgent that it must be met without delay and the suggestion that health departments should take part in its solution is by no means as far fetched as it appears at first thought.

#### THIS WEEK'S ISSUE

Contains articles by the following named authors:

BLAKE, FRANCIS G., A.B., M.A.; M.D., Harvard, 1913. Professor of Medicine Yale University School of Medicine. Physician-in-Chief New Haven Hospital. Secretary Board of Scientific Directors of the Rockefeller Institute for Medical Research. Associated with Dr. Blake, is

TRASK, JAMES D., M.D., Cornell University Medical College, 1917. Member of Society of American Bacteriologists. The subject is "The Treatment of Scarlet Fever with Antitoxin."

LUND, FRED B., F.A.C.S.; M.D., Harvard, 1892. Surgeon in Chief Boston City Hospital. Associate in Surgery Harvard Medical School. The subject of his paper is "Comments on the Surgery of Carcinoma of the Stomach."

DAYTON, NEIL A., M.D., Ohio State University, 1915. Assistant Superintendent Wrentham State School. Member of New England Society of Psychiatry. His subjects are "Congenital Syphilis as a Cause of Mental Deficiency. I. Statistics," and "Congenital Syphilis as a Causative Factor in Mental Deficiency. II. Analysis of Cases."

VAN NUY, F., B. A.; M.D., Harvard, 1906. Chief of Medical Staff, Waltham Hospital; Member American Medical Association and New England Pediatric Society. His subject is "Three Unusual Cases."

WHEELER, ROY R., M.D., Harvard, 1920. Member Out-Patient Staff, Massachusetts General Hospital. Associated with Dr. Wheeler, is

BOGAN, ISABEL K., M.D., Women's Medical College of Pennsylvania, 1910. Member Massachusetts Medical Society and American Medical Association. Assistant Roentgenologist, New England Deaconess Hospital. The subject of the paper is "Use of Sodium Tetraiodophenolphthalein in Cholecystography."

WATKINS, HARVEY M., M.D., University of Louisville School of Medicine, 1917. Formerly Assistant Physician, Danvers State Hospital; Assistant Superintendent, Belchertown State

School. Now Director, Division of Feeble-Minded, Massachusetts Department of Mental Diseases. Member of State and National Societies of Psychiatry. His subject is "How Adequately Can Social Service Solve Community Care of the Feeble-minded?"

DeNORMANDIE, ROBERT L., A. B.; M.D., Harvard, 1902. F.A.C.S. Instructor in Obstetrics, Harvard Medical School. Assistant Visiting Obstetrician, Boston Lying-In Hospital. His subject is "Progress in Obstetrics."

## The Massachusetts Medical Society

### MEMBERSHIP CHANGES

Dr. George W. Bassow has moved from Athol to Douglas, Arizona, where his address is 745 Ninth Street.

Dr. Clara Lottman of Roxbury now has an office at 20 Charlesgate West, Boston.

Dr. James J. Putnam has moved his office from Dedham to Foxborough, where he is at 28 School Street.

### MISCELLANY

#### THE NEED FOR REFORM

THE *Boston Herald* has recently published the subjoined Editorial:

##### REFORM IT ALTOGETHER

With one exception, the standards of admission to the study of law in Massachusetts are lower than in any other state in the Union. We do not even require a man to have a high school education to study law. Two years in a day or evening high school suffice. Men of sheer illiteracy have been admitted on test cases to law schools. Even our present trifling requirements are not really maintained.

When the proposal goes to the Legislature to establish some standards for the study of law, the demagogues rise to protest in the name of "the poor man." Nonsense! Does the poor man want to be a poor lawyer? Does the poor man want a poor lawyer as his legal adviser? Apparently, if the mouthpieces of his supposed interest interpret his wishes aright.

The examination for admission to the bar is difficult and becoming increasingly so. But apart from the possibility of fraud, long suspected and recently brought to light, there is serious objection to lodging so large a share of responsibility on a single test, the substance of which can be foreseen, more or less accurately, by experts in the passing of examinations. There are such persons. They make a business of studying the questions that are prepared from year to year and cram men to answer them. The result is that the curve of the incompetents, who are thus specially coached for the test, has been steadily rising, while the per-

centage of men of real training and calibre who pass has been, if anything, declining.

There is small incentive for the organized law schools, maintaining rigorous standards and insisting on the observance of the American Bar Association rulings, when they see how men of inadequate training can be railroaded through these examinations, and so become lawyers. Now is the time to reform the situation. And the recent leakage, culpable as it is, makes only part of the story. We need, in the words of Hamlet, to reform it altogether. Let the Legislature take notice.

Substitute medicine in place of "law"—doctor in place of "lawyer," the practice of medicine in place of "the bar" and we have the argument so often used by those who would raise the standard relating to medicine. Perhaps the lawyers in the legislature will be ready to cooperate with physicians in raising the standards for both professions. We trust that the argument will also appeal to those who are not members of either profession.

#### THE COST OF KILLING RATS AND FLEAS

It is reported that the campaign against rats carried on by the New York City Board of Health is an expensive enterprise. The average cost amounts to \$72 per rat. Flea catching cost \$77 per flea according to the estimate made by L. M. Wallstein, Chairman of the Non-Partisan Citizens Committee. Of an appropriation for the City Health Department of \$5,000,000 per year about one million dollars was apportioned for salaries and wages of rat catchers and others engaged in the work designed to prevent bubonic plague and other diseases caused by rodents and other agencies. The actual amount expended during the period from April 18, 1923 to February 28, 1925, showed the above mentioned results.

We hope that the zeal of political workers may have led to some exaggeration. Perhaps the cost of killing rats and fleas may be less after the New York mayoralty campaign has ended.

#### NARCOTIC SMUGGLING

WASHINGTON, Aug. 6, (A. P.)—Increased smuggling of narcotics through the Port of New York was the subject of a conference today between Assistant Secretary Andrews of the Treasury and L. G. Nutt, chief of the Narcotic Unit. Additional forces were promised to Mr. Nutt to combat the traffic wherever possible.

The narcotic chief indicated that some difficulty still was being encountered with smugglers along the Mexican and Canadian borders, but that the recent treaty negotiated with the Dominion was bringing about an improvement. Mexico also was cooperating, he said, as a result of agree-

ments reached at the El Paso anti-smuggling conference.

Mr. Nutt said that on the whole, illegal use of narcotics is on the decline, that seizures have considerably fallen off with a corresponding increase in bootleg prices and that reports for a recent ten-month period showed that over 95 per cent. of court cases had resulted in conviction.—*New York Times*.

### THE ETIOLOGY OF CANCER

PRIMITIVE races are practically free from cancer, appendicitis, diabetes and other diseases suggestive of metabolic disturbances, finds Frederick L. Hoffman, LL. D., consulting statistician of the Prudential Insurance Company of America, who says that it is not easy to exaggerate "the positive evidence of the rarity of cancer occurrence among uncivilized or primitive races."

"Why, for illustration, should cancer of the breast be practically absent among the women of the Indians of North and South America?" he asks. "Why should this fatal and increasing affliction be ten times more common among the women of Great Britain than among the women of Japan? Until the subject of the rare occurrence of cancer among primitive peoples is thoroughly investigated and understood, little progress towards an improvement in the cancer situation is likely to be made.

"In other words there is apparently the most urgent need of diverting some of the efforts and means expended upon laboratory research and inquiry towards the infrequency or non-occurrence of malignant tumors of all kinds among primitive races, and no field, in this respect, would seem to be of greater promise than a study made among the Indians in North and South America and among the black and mixed-blood population of Bermuda, Jamaica and the various other races of Central America and the West Indies. My own investigations among the Indians in North and South America are decidedly suggestive of the conclusion that the essential differences between these races and those who are civilized lies in the matter of diet and the resulting nutritional conditions, favorable or otherwise, as the case may be. If the increasing frequency of cancer is even in part attributable to the dietary habits common to civilized races, it is obviously a matter of first importance that this aspect of the subject should receive more extended and dispassionate consideration."—*Prudential Service Bureau, Newark, New Jersey*.

### THE INCIDENCE OF DIPHTHERIA AND SMALLPOX

THE United States Public Health Service reports that diphtheria shows continued improvement for the past three years. The death rate

from this disease has decreased steadily for more than two decades at least.

In 83 large cities of the United States smallpox caused 15,574 cases of illness and 513 deaths during the year 1924. These could have been prevented by vaccination and revaccination. The case rate for smallpox in 1924 (50 cases per 100,000 population) was almost three times the rate for 1923 (18 per 100,000), and the death rate (1.65 per 100,000) was the highest recorded for the large cities in the present series of reports, which was started in 1912.

### PLAGUE INFECTION

ALL of the United States ports are now free from plague infection. San Pedro, California, which was the last known infected port, was declared free from infection August 6, 1925.

### "SOLDIER'S HEART" CASES ARE FOUND CURABLE

LONDON, Sept. 9.—Thousands of men from the various World War armies who have been under the impression that "soldier's heart," which they inherited from the conflict, was the beginning of heart disease received a cheerful message today, when results of a post-war medical survey were announced. A careful inquiry has shown that only 1 per cent. of the cases under observation developed heart disease, although the first symptoms strongly resembled cardiac trouble. Fifteen per cent. of 665 test cases observed recovered completely, improvement took place in 17 per cent., while 56 per cent. remained stationary.

"Soldier's heart" was found much like the so-called "nervous heart" in ordinary civilian life and therefore the results of the survey are most encouraging to the vast number throughout the world who suffer from nervous heart.—*New York Times*.

### BOSTON MEN WILL ATTEND THE INTERSTATE POST GRADUATE ASSEMBLY OF AMERICA

THE Harvard Medical School will be represented by Dr. Nathaniel Allison, Dr. James H. Means, Dr. William P. Graves, Dr. Walter B. Cannon and Dr. Milton J. Rosenau, at the meeting of the Inter-State Post-Graduate Assembly of America to be held in St. Paul, Minn., from October 12 to 16.—*Science*.

### CARBON-MONOXIDE POISONING

PUBLIC HEALTH BULLETIN No. 150 issued by the United States Public Health Service gives a resume of the literature devoted to this subject.

The treatment advised is immediate removal to an uncontaminated atmosphere and the forced ventilation of the lungs by oxygen. The



combined use of carbon dioxide and oxygen is not as safe as the use of oxygen alone in severe cases. Of course the Sylvester method may be employed pending the arrival of oxygen.

## JOURNAL AIDS HEALTH AUTHORITIES

IN "an effort to coöperate with the State Department of Health in meeting the Venereal Disease Problem which is engaging the attention of sanitarians and medical profession" the BOSTON MEDICAL & SURGICAL JOURNAL, owned and published by the Massachusetts Medical Society, has devoted the issue of August 27, 1925, to a symposium on venereal diseases.

The attitude of this MEDICAL JOURNAL suggests the opportunity for non-medical journals to aid the Health Authorities in the same problem. It is officially reported that the State of New York spent in 1924 \$580,762 for the care of 911 syphilitic insane admitted during the year. The United States Public Health Service calls attention to the important facts that this expenditure of over half a million dollars is the cost of institutional care alone, in one State only, and for but one of the hopeless disabilities resulting from neglected or inadequate treatment of syphilis, either in the early or late stages. Attention is also directed to the fact that this information should serve to influence negligent persons, who are aware that they are in need of treatment, as well as persons who have to do with delinquent adults, boys and girls, in whom the detection of the diseases and their adequate treatment might tend to correct their social trends to protect the community from further expense.

The labor papers and journals are already coöperating with the Health Authorities, having published a series of articles entitled "Venereal Diseases—Destroyers of Health and Wealth." This stimulation of workers to coöperate with the Health Authorities in the production of fitness and in safeguarding the earning capacity of the individual is a valuable activity in which the non-medical press can ably assist by editorial discussion as well as by news items and feature articles.—*United States Public Health Service.*

## RECENT DEATH

**LINCOLN**—DR. JACOB READ LINCOLN died at his home in Millbury, of myocarditis, September 28, 1925, at the age of 63.

He was born in Worcester, September 4, 1862, the son of Dr. William Henry and Eunice Read Lincoln, and was a descendant, through his father, of Thomas Lincoln, who came to New England in 1835 and settled in Hingham in Massachusetts Bay Colony. Through his mother he descended from the Read family, also Colonial stock long prominent in northern Worcester County.

He attended the public schools in Millbury and Worcester Academy, going thence to Harvard Medical School, where he was graduated in 1888. His post-

graduate work was at Johns Hopkins University, Baltimore, Md. He served in the United States Marine Hospital at Portland, Me. Coming from Portland, he began practice in Millbury, Mass., succeeding his father in this field. Since then he had been prominent in the life of Millbury, in the medical profession as well as in the field of Masonry and civil government.

Dr. Lincoln was a member of the Massachusetts Medical Society and the Worcester Medical Society, and examining surgeon for the United States government in his Congressional district. He worked for his country also in the selection of many who served there in the recent war.

In Masonry he had been for many years a member of the Olive Branch Lodge, A. F. and A. M., of which he was a past master at the time of his death. He was also chairman of the Board of Health in Millbury and a member of the School Committee.

He is survived by his widow, who was Frances Willard Morse before their marriage in 1889. They had no children.

## OBITUARY

### DR. EUGENE R. KELLEY

DR. EUGENE R. KELLEY, although born in Maine, came of the family of Kelleys who early settled on Cape Cod. It was then particularly fitting that after his education at Bowdoin College and Johns Hopkins Medical School and a period of experience in the state of Washington he should return to Massachusetts in 1915, first as Director of the Division of Communicable Diseases and since 1918 as Commissioner of Public Health of Massachusetts. In these ten years he became a prominent figure in Massachusetts. The position of Commissioner of Public Health is in itself a guarantee of prominence here in Massachusetts where the traditions of the Massachusetts State Board of Health are so honorable. Dr. Kelley had the keenest sense of the responsibility of maintaining the high traditions of the old Board of Health. He was very fond of recalling the earlier pioneer achievements of the Massachusetts State Board of Health, which were many and important. Although he was compelled, by the nature of his office, to devote a large amount of time to administrative detail he was most interested in the incorporation of ever recurring scientific discoveries into the service which the State Board of Health could render to the people of Massachusetts. Under his direction and inspiration the growth of the State Department of Public Health was quite remarkable. The activities of his department in which he had an intense interest and guiding hand were manifold. As examples may be cited the manufacture of arsenic preparations for the treatment of syphilis; the manufacture of diphtheria toxin and anti-toxin for the purpose of testing and developing immunity to diphtheria; and the inauguration of the already famous ten year tuberculosis campaign of the state. Dr. Kelley was ever mindful that he was a physician, and was ever jealous of the good name and the rights of his profession. He

was stalwartly opposed to all movements tending towards some form of state medicine, particularly those movements which wanted to utilize the State Department of Public Health to supplant or interfere in any way with the practicing physician. At the relatively early age of 42 Dr. Kelley was a national figure. His alma mater, Bowdoin College, recognized, last

life he had accomplished more than is the lot of most men.

ROGER I. LEE.

#### RESOLUTIONS OF THE BOSTON HEALTH LEAGUE UPON THE DEATH OF DOCTOR EUGENE R. KELLEY

THE Executive Committee of the Boston Health League, an incorporated body of 30 health and welfare agencies of Boston, by unanimous vote, extend their most profound sympathy to the family of the late Eugene R. Kelley, Commissioner of Health of the Commonwealth of Massachusetts. The Committee feels that the fine example set by Doctor Kelley in his public work and his personal interest in the program of the League and in their worthwhile health and welfare endeavor, has been of benefit to Boston and Massachusetts, and that his death is an irreparable loss.

Doctor Kelley was not only personally known by all of the members of the League, but his stimulation served as an inspiration in the development of higher standards of community health and welfare.

The Committee sincerely hopes and prays that his family may be sustained in this great sorrow by an appreciation of the esteem and affection in which he has been held by public health leaders of the City, State and Nation.

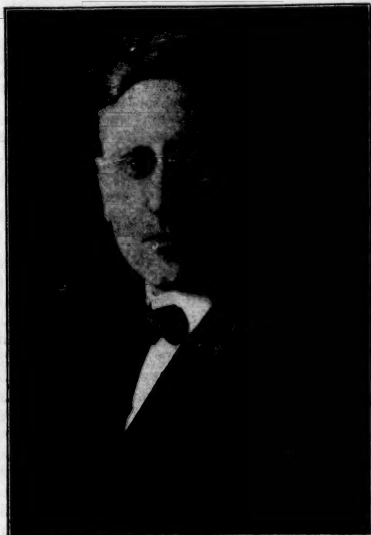
For the League,

GEO. C. SHATTUCK, M.D.,

*Chairman, Executive Committee.*

CHAS. F. WILINSKY, M.D.

*Executive Secretary.*



EUGENE R. KELLEY

June, his public service by conferring upon him the honorary degree of Doctor of Science.

A few years ago, after a long period of nearly constant physical discomfort, he underwent a serious surgical operation. He took the shortest possible time from his work after the operation. The operation did not bring him the hoped for complete relief; from time to time his discomfort would become sufficiently acute so that he would have to give up work for part of a day, or for a day or two. Always in the shortest possible time he was back at his office, working, giving talks and lectures, not only in this state but over the country, and preparing reports and scientific papers. He served gladly on a large number of active and important committees. Finally the strain became too great. This young man who always looked on the problems and troubles of others with extraordinary kindness, fairness, and sanity found life unendurable. Dr. Kelley died at the age of 42, with an extraordinary list of achievements and with a fair promise of many and better things in the future. In his short

#### CORRESPONDENCE

##### TUBERCULOSIS IN THE PHILIPPINE ISLANDS

*Editor, Boston Medical and Surgical Journal:*

During the year 1909 I became interested in the prevention of tuberculosis in the Philippine Islands and the following year presented a paper on Tuberculosis in the Philippine Islands to the Far Eastern Association of Tropical Medicine. At that time there were about 1,300 deaths from tuberculosis in Manila each year and there has been but little change since that time. The death rate in the Islands was in 1910 230.2, and in 1922, the last year for which we have record, it was 237.7. The rates for the several years since 1904 are given in the table which follows.

At the time my paper was presented very little attention was being paid to the subject by the health officials. No real active work was being done. I have always felt that the view of the health authorities was out of focus in this respect and that they could well have spent more money on tuberculosis and less on some other diseases, if there was any shortage of funds.

In a recent issue of the *Monthly Bulletin of the Philippine Health Service* it is pleasing to find that at least two of the officials of that service are actively interested in the problem. They seem to feel that the great need is more beds for the treatment of cases. According to one of the gentlemen mentioned, there are but 320 beds, while the estimated number

of tuberculous persons is probably between twenty and thirty thousand.

The Filipino is quick to learn once you break through the ideas he has inherited, and it is my opinion that the addition of sanatoria will do much, but that the greatest good will only come when there is an intensive campaign of education directed towards the prevention of tuberculosis. I was convinced of that in 1910 and for a period of eighteen months carried on such a campaign through the newspapers. I also issued with the help of the Methodist Church a pamphlet on tuberculosis in the Tagalog dialect. This was widely circulated and was translated into several other dialects.

The problem is too great for the Insular Government alone, and the Americans who are interested in the welfare of the Philippines could do no better service to the people of those islands than to finance such a campaign. The campaign must be intensive and prolonged and must take into consideration the prejudices of the people.

DEATH RATE PER 100,000 FROM TUBERCULOSIS OF THE LUNGS IN THE PHILIPPINE ISLANDS					
1904	185.7	1911	241.2	1918	315.9
1905	201.0	1912	233.8	1919	227.5
1906	184.9	1913	213.8	1920	240.5
1907	190.0	1914	222.6	1921	236.1
1908	220.5	1915	223.8	1922	237.7
1909	220.6	1916	230.3		
1910	230.2	1917	248.8		

ISAAC W. BREWER.

Pleasant Valley Sanatorium, Bath, N. Y.

September 7, 1925.

#### AMERICAN MEDICAL ASSOCIATION COUNCIL ON PHARMACY AND CHEMISTRY

September 26, 1925.

In addition to the articles enumerated in our letter of August 29, the following have been accepted:

Gilliland Laboratories—

Schick Test.

Typhoid-Paratyphoid Bacterial Vaccine Immunizing.

Laboratory Products Company—  
Protein S. M. A. (Acidulated).

Eli Lilly & Co.—

Antistreptococcal Serum.

Normal Horse Serum.

Pertussis Vaccine.

Pneumococcus Vaccine Prophylactic.

Staphylococcus Aureus Vaccine.

Staphylococcus Vaccine.

Streptococcus Vaccine.

Vaccine Virus.

Mallinckrodt Chemical Works—

Bromelkon:

Bromelkon 5 Gm. Ampules.

Merrell-Soule Company—

Vi-Mal-Dex (Orange).

H. K. Mulford Company—

Pertussis Bacterin—Mulford.

Typho Bacterin.

Typho-Serobacterin.

Typho-Serobacterin—Mulford Mixed.

National Aniline and Chemical Company—

Tetralodophthalein Sodium—"National":

Tetralodophthalein Sodium—"National" Vials  
3½ Gm.

Parke, Davis & Co.—

Corpora Lutea Desiccated—P. D. & Co.:

Capsules Corpora Lutea Desiccated—P. D. & Co. 2 grains.

Capsules Corpora Lutea Desiccated—P. D. & Co. 5 grains.

Tablets Corpora Lutea Desiccated—P. D. & Co. 2 grains.

Tablets Corpora Lutea Desiccated—P. D. & Co. 5 grains.

Swan-Myers Company—

Sterile Ampules of Mercury Oxycyanide, 0.008 Gm.

Sterile Ampules of Mercury Oxycyanide, 0.01 Gm.

Sterile Ampules of Mercury Oxycyanide, 0.016 Gm.

Non-proprietary Articles—

Tetrabromphthalein Sodium (formerly called Tetra-bromphenolphthalein Sodium).

Tetraiodophthalein Sodium.

Yours truly,

W. A. PUCKNER, Secretary.

#### MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

DISEASES REPORTED FOR THE WEEK ENDING

SEPTEMBER 26, 1925

Anterior poliomyelitis	10	Pneumonia, lobar	21
Chickenpox	25	Scarlet fever	53
Diphtheria	78	Septic sore throat	1
Dog-bite requiring antiseptic treatment	5	Syphilis	50
Encephalitis lethargica	4	Suppurative conjunctivitis	12
Epidemic cerebrospinal meningitis	5	Tetanus	2
German measles	6	Tuberculosis, pulmonary	92
Gonorrhea	112	Tuberculosis, other forms	3
Measles	79	Typhoid fever	19
Mumps	8	Whooping cough	186
Ophthalmia neonatorum	22		

#### RHODE ISLAND STATE BOARD OF HEALTH

CONTAGIOUS DISEASES REPORTED FOR THE WEEK ENDING

SEPTEMBER 5, 1925

Diphtheria	5	Scarlet fever	3
Typhoid fever	2	Smallpox	10
Whooping cough	6	Measles	3
Encephalitis	2	Poliomyelitis	1

CONTAGIOUS DISEASES REPORTED FOR THE WEEK ENDING

SEPTEMBER 12, 1925

Diphtheria	4	Scarlet fever	5
Typhoid fever	5	Poliomyelitis	2
Measles	3	Smallpox	1
Ophthalmia neonatorum	1	Chickenpox	1
	1	Whooping cough	8

CONTAGIOUS DISEASES REPORTED FOR THE WEEK ENDING

SEPTEMBER 19, 1925

Diphtheria	4	Scarlet fever	6
Typhoid fever	3	Poliomyelitis	1
Measles	1	Pneumonia	1
Ophthalmia neonatorum	3	Chickenpox	4
	3	Whooping cough	2

CONTAGIOUS DISEASES REPORTED FOR THE WEEK ENDING

SEPTEMBER 26, 1925

Diphtheria	7	Whooping cough	4
Typhoid fever	2	Ophthalmia neonatorum	2
Measles	12		2
Scarlet fever	3	Chickenpox	1
Poliomyelitis	2		

#### CONNECTICUT DEPARTMENT OF HEALTH

MORBIDITY REPORT FOR THE WEEK ENDING

SEPTEMBER 19, 1925

Diphtheria	16	Typhoid fever	18
Last week	9	Last week	10
Diphtheria bacilli carriers	6	Measles	12
Scarlet fever	14	Last week	5
Last week	20	Whooping cough	169
		Last week	50

Cerebrospinal meningitis	2	Poliomyelitis	5
Chickenpox	3	Tuberculosis, pulmonary	31
Encephalitis epid.	1	Tuberculosis, other forms	3
German measles	1	Gonorrhea	27
Influenza	1	Syphilis	16
Broncho-pneumonia	8		
Pneumonia, lobar	9		

## NOTICE

## CHANGE OF DATE OF THE CLINICAL AND PATHOLOGICAL DISCUSSIONS

The clinical and pathological discussions conducted by Dr. Richard C. Cabot at the Massachusetts General Hospital with the assistance of Dr. Edward L. Young, Jr., Dr. Maurice Fremont-Smith and Dr. Oscar Richardson will be held on Saturdays instead of Tuesdays beginning October 10.

## HARVARD MEDICAL SCHOOL

## LECTURES ON "THE CARE OF THE PATIENT"

THESE lectures will discuss, from the viewpoint of clinicians in various lines of work, the care of the individual human subject, as against the care of the disease. They will be given as follows, in Amphitheatre C, at 5 P. M.:

Tuesday, October 6th—Dr. David L. Edsall.  
Thursday, October 8th—Dr. Franklin G. Balch.  
Tuesday, October 13th—Dr. Alfred Worcester.  
Thursday, October 15th—Dr. Francis W. Peabody.  
Tuesday, October 20th—Dr. Edward W. Taylor.  
Thursday, October 22nd—Dr. C. Macfie Campbell.

AMERICAN ACADEMY OF  
PHYSIOTHERAPY

THE program of the meeting to be held October 15, 16 and 17 appeared in our issue of September 24, corrections in the issue of October 1.

It is expected that there will be a demonstration of electro-surgery at the Boston City Hospital, Saturday, October 17.

## NOTICE OF EXAMINATION FOR ENTRANCE INTO THE REGULAR CORPS OF THE UNITED STATES PUBLIC HEALTH SERVICE

Examinations of candidates for entrance into the Regular Corps of the United States Public Health Service will be held at the following-named places on the dates specified:

At Washington, D. C.	December 7, 1925
At Chicago, Ill.	December 7, 1925
At New Orleans, La.	December 7, 1925
At San Francisco, Cal.	December 7, 1925

Candidates must be not less than 23 nor more than 32 years of age, and they must have been graduated in medicine at some reputable medical college, and have had one year's hospital experience or two years' professional practice.

Requests for information or permission to take this examination should be addressed to the Surgeon-General, United States Public Health Service, Washington, D. C. H. S. CUMMINS, Surgeon-General.

## UNITED STATES CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces the following open competitive examination:

Junior Medical Officer  
Assistant Medical Officer  
Associate Medical Officer  
Medical Officer  
Senior Medical Officer

Applications for the positions listed above will be rated as received until December 30. The examinations are to fill vacancies in various branches of the Government Service.

For positions in the Departmental Service at Washington, D. C., the entrance salaries are: Junior medical officer, \$1,860 a year; assistant medical officer, \$2,400 a year; associate medical officer, \$3,000 a year; medical officer, \$3,800 a year; and senior medical officer, \$5,200 a year. Advancement in pay may be made without change in assignment up to \$2,400 a year for junior medical officer, \$3,000 a year for assistant medical officer, \$3,600 a year for associate medical officer, \$5,000 a year for medical officer, and \$6,000 a year for senior medical officer.

For positions in the field services appointments may be made at the salaries stated above or at higher or lower salaries, the entrance salary depending upon the qualifications of the appointee as shown in the examination and the duty to which assigned.

Competitors will not be required to report for examination at any place, but will be rated on their education, training and experience.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the Board of United States Civil Service Examiners at the post office or custom house in any city.

REPORTS AND NOTICES OF  
MEETINGS

THE October meeting of the Worcester District Medical Society will be held at the Grafton State Hospital in Grafton, Mass., on Wednesday, October 14th.

Program of this meeting will be announced later.

## HARVARD MEDICAL SOCIETY

THE next regular meeting of the Harvard Medical Society will be held as usual in the amphitheatre of the Peter Bent Brigham Hospital, Oct. 13, 1925, at 8:15 p. m. The program follows:

1. Demonstration of cases.
2. Encephalitis from a Clinical Standpoint—Dr. D. J. MacPherson.
3. Experimental Aspects of Encephalitis Problem—Dr. Hans Zinsser.

All members of the Medical Profession, Medical Students and Nurses are invited.

NEW ENGLAND DERMATOLOGICAL  
SOCIETY

THE regular quarterly meeting of the New England Dermatological Society will be held



on Wednesday, October 14, at three o'clock, in the Skin Out-Patient Department of the Massachusetts General Hospital.

WESLEY T. LEE,  
Secretary.

# SOCIETY MEETINGS

## DISTRICT MEDICAL SOCIETIES

### Essex North District Medical Society

Wednesday, January 6, 1926—The semi-annual meeting at Haverhill.  
Wednesday, May 5, 1926—The annual meeting at Lawrence.

### NEW ENGLAND STATE MEDICAL SOCIETIES

The annual meetings of the New England State Medical Societies are scheduled as follows:  
Vermont State Medical Society—St. Johnsbury, Oct. 15-16, 1925.

Notices of meetings must reach the JOURNAL office on the Friday preceding the date of issue in which they are to appear.

# BOOK REVIEWS

## BOOKS RECEIVED FOR REVIEW

- Die Chirurgie—Eine Zusammenfassende Darstellung der allgemeinen und der speziellen Chirurgie.* By M. Kirschner and O. Nordmann. Berlin and Vienna: Urban & Schwarzenberg. 638 pages. Price, M. 12.—
- Praktikum der Chirurgie.* By O. Nordmann. Berlin and Vienna: Urban & Schwarzenberg. 796 pages. Price, M. 33.—; geb. 37.50.
- Symptoms of Visceral Disease.* 3d Edition. By Francis Marion Pottenger. St. Louis: C. V. Mosby Co. 394 pages. Price, \$6.50.
- Some Fundamental Considerations in the Treatment of Empyema Thoracis.* By Everts A. Graham. St. Louis: C. V. Mosby Co. 110 pages. Price, \$2.50.
- Methods in Surgery.* By Glover H. Copher. St. Louis: C. V. Mosby Co. 232 pages. Price, \$3.
- The Normal Diet.* By W. D. Sansum. St. Louis: C. V. Mosby Co. 72 pages. Price, \$1.50.
- Old and New Viewpoints in Psychology.* By Knight Dunlap. St. Louis: C. V. Mosby Co. 166 pages. Price, \$1.50.
- Handbuch der Geburtshilfe.* By A. Doderlein. München: Verlag von J. F. Bergmann. 963 pages. Price, Brosch. sh. 45.—Scl. sh. 48.—
- Modern Operative Surgery.* Edited by H. W. Carson. 2 volumes. New York: William Wood & Co. Vols. I and II—784 pages each. Price per set, \$20.
- Textbook of Orthopedic Surgery—for Students of Medicine.* By James Warren Sever. New York: The Macmillan Co. 353 pages. Price, \$4.50.
- The Faith, The Falsity, The Failure of Christian Science.* By Woodbridge Riley, Frederick W. Peabody and Charles E. Humiston. New York and Chicago: Fleming H. Revell Co. 408 pages. Price, \$3.50.
- Bone Sarcoma.* By E. A. Codman. New York: Paul B. Hoeber, Inc. 93 pages. Price, \$2.
- The Healing Gods of Ancient Civilizations.* By Walter Addison Jayne. New Haven, Conn.: Yale University Press. 568 pages. Price, \$5.
- Treatment of Kidney Diseases and High Blood Pressure.* By Frederick M. Allen. Morristown, N. J.: The Physiatric Institute. 206 pages.
- Physiological and Clinical Chemistry.* By William A. Pearson and Joseph S. Hepburn. Philadelphia and New York: Lea & Febiger. 306 pages. Price, \$4.
- The Surgery of Pulmonary Tuberculosis.* By John Alexander. Philadelphia and New York: Lea & Febiger. 356 pages. Price, \$4.50.
- The Medical Polities.* By Morris Fishbein. New York: Boni & Liveright. 223 pages. Price, \$2.

- An Index of Treatment.* 9th edition. New York: William Wood & Co. 1035 pages. Price, \$12.
- The Nursing of Eye Cases.* Louise Kingman. Oxford Medical Publications. 16 pages. Price, 30 cents.
- Physiological Chemistry.* By Albert P. Mathews. 4th edition. New York: William Wood & Co. 1233 pages. Price, \$6.50.
- Feeding and the Nutritional Disorders in Infancy and Childhood.* By Julius H. Hess. 4th edition. Philadelphia: F. A. Davis Co. 556 pages. Price, \$4.50.
- Reports of the St. Andrew's Institute for Clinical Research.* Vol. II. Oxford Medical Publications. 190 pages. Price, \$3.
- Parasitology for Medical Students.* By Alex. Mills Kennedy. Oxford Medical Publications. 142 pages. Price, \$3.
- History of Medicine.* By Max Neuburger. Vol. II, Part I. Oxford Medical Publications. 135 pages. Price, \$2.25.
- Artificial Sunlight and Its Therapeutic Uses.* By Francis Howard Humphris. Oxford Medical Publications. 203 pages. Price, \$2.75.
- Midwifery Mechanics.* By Andrew Buchanan. Oxford Medical Publications. 82 pages. Price, \$2.50.
- Clinical Researches in Acute Abdominal Disease.* By Zachary Cope. Oxford Medical Publications. 148 pages. Price, \$4.
- The Chemical and Physiological Properties of the Internal Secretions.* By E. C. Dodds and F. Dickens. Oxford Medical Publications. 214 pages. Price, \$2.50.
- Radium—Its Therapeutic Uses in General Practice.* By G. H. Varley. Oxford Medical Publications. 103 pages. Price, \$1.75.
- Middle Age and Old Age.* By Leonard Williams. Oxford Medical Publications. 296 pages. Price, \$3.25.
- Diseases of the Nose, Throat and Ear.* By William Lincoln Ballenger. Philadelphia and New York: Lea & Febiger. 1080 pages. Price, \$10.

*Anaphylaxis and Sensitization.* By Dr. R. CRANSTON LOW. William Wood and Co. 1925, pp. 384.

This volume will be of special interest to dermatologists, as it deals with the phenomena of anaphylaxis and sensitization in so far as they affect the skin. A number of plates, colored and in black and white, illustrate the chief points. A brief discussion of the various theories of anaphylaxis are presented. The experimental evidence presented in relation to the skin reactions in fungus infections is particularly interesting. The book would perhaps be of greater value if the author had cited the works of others less liberally and with more skepticism. However, it is a useful presentation of a somewhat novel side of dermatology and should be of permanent value.

*Laboratory Diagnostic Methods.* By JOHN A. KOLMER and FRED. BOERNER. D. Appleton & Co. 1925. pp. 338.

Any book on laboratory methods by Dr. Kolmer is a welcome addition to the physician's laboratory. This manual represents, according to the preface, the methods employed in the Department of Pathology and Bacteriol-

ogy at the Graduate School of Medicine of the University of Pennsylvania.

All of the useful clinical laboratory tests are concisely yet adequately treated—not only the classical tests handed down from one text-book to another, but the more essential of the newer methods, such as the phenoltetrachlorophthalein methods for liver function. In bacteriology adequate treatment is accorded the wound infection group; so important in traumatic wounds and usually but lightly touched on in laboratory manuals.

Blood chemistry and the Wassermann and Kahn tests are given due attention, making the book a valuable and complete laboratory guide. A convenient feature is the blank left-hand pages, affording ample space for notes and insertions.

*Old and New Viewpoints in Psychology.* By KNIGHT DUNLAP, Professor of Experimental Psychology in the Johns Hopkins University. 166 pages. St. Louis, The C. V. Mosby Co., 1925.

The five chapters on various aspects of psychology were given by Professor Dunlap as lectures in 1921, 1922 and 1923 and therefore represent his views up to that time. One cannot understand the reason for the delay in publishing such an important series of lectures. They present, in a semi-popular form, an excellent résumé of the literature of such subjects as "Mental Measurements," "Psychological Factors in Spiritualism" and "Reading of Character," with critical comments by the author. The book can be highly recommended as a readable and concise presentation of the subjects discussed.

*Cancer and the Public—The Educational Aspect of the Cancer Problem.* By CHARLES P. CHILDE, B.A., F. R. C. S., M. R. C. P. E. 267 pages. Price \$4.25. Published by E. P. Dutton and Company, New York.

The importance to the civilized world of the disease called "cancer" makes such a book as Childe's of much value. Based as it is upon sound, well established facts, it points to a perfectly logical conclusion. That conclusion is that cancer in its early stages is a local and curable disease; that in 1/3 of all cases in men, and in 1/2 of all cases in women, it appears in a situation where it gives external manifestations of its presence. If the affected area were removed as soon as these manifestations were first noted, the percentage of cures would be vastly higher than at present. The author gives many statistics in support of this contention, and proves his point. He discusses the reasons for the attitude of hesitation, and suggests ways by which it may be changed to one of immediate attention.

The importance of injury and irritation as

causes of cancer is stated rather over-emphatically; Childe is, however, correct in insisting upon the removal of causes of irritation. His discussion of precancerous conditions is fair and not too imaginative. His book points the way to reduce the mortality of certain types of cancer, an object well worth any effort. In spite of a good deal of repetition, it should prove very interesting and valuable both to the medical profession and to the public.

*Abt's Pediatrics.* Volume VII. By 150 specialists. Edited by Isaac A. Abt, M.D., Professor of Diseases of Children, Northwestern University Medical School, Chicago. Set complete in eight octavo volumes totaling 8000 pages with 1500 illustrations, and separate Index Volume free. Now ready—Volume VII containing 879 pages with 70 illustrations. Philadelphia and London: W. B. Saunders Company, 1925. Cloth, \$10.00 per volume. Sold by subscription.

This volume of Abt's Pediatrics is concerned chiefly with the nervous system, and like the previous volumes, deals with the subject in a thoroughly exhaustive manner. Of especial note are the sections on epilepsy and other neuroses by Hassin, on hydrocephalus by Blackfan, and on infantile paralysis by Lucas. An excellent introductory chapter on the physiology of the nervous system has been contributed by Stiles. It is unfortunate that the newest and so far the most effective treatment of epilepsy—by the ketogenic diet—could not be included.

Each succeeding volume of the system has helped fulfill the promise held out by the preceding ones.

*The Medical Follies.* By MORRIS FISHBEIN, M.D., Editor of the *Journal of the American Medical Association*. Published by Boni & Liveright, New York. 223 pages. Price \$2.00.

Under the above title Dr. Fishbein discusses the cults—homeopathy, osteopathy, chiropractic, Abramsism—and also some of the popular emotions concerning medicine. Health legislation, birth control, the antivivisectionist movement, rejuvenation and what he terms "The Big Muscle Boys," who advertise their particular methods of teaching how to acquire the perfect body, are included among the Follies. The author's presentation of the facts in connection with each matter under discussion is thorough; his position in regard to each is logical and not over-antagonistic; he writes in an amused rather than a personally aggrieved style, and writes brilliantly. We thoroughly enjoyed "The Medical Follies"; it is a book which ought to do much toward correcting public opinion about several matters of importance to medicine.